Environmental Aspects of Energy Use in Large Indian Metropolises
VOLUME II

Draft Final Report

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Annexures

Annexure 5.1. Growth of motorized vehicles in the four cities

City	Mode	Number of vehicles registered (in thousands)										
Source		3	3	3	interpol	2	2	1	1	1x&4x	4x	
Year		1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Delhi	2-wh	579 08	665 10	770 11	881 47	1008 92	1113 24	1220 64	1317.18	1403.05	1492.20	1617.73
	3-wh	30.02	31.87	34.62	43.53	54 74	58 93	63.01	67 13	70.46	72.10	74.98
	car+jeep	157 74	179 67	211 77	249 04	292 85	320.00	390.00	440.17	477.78	522.26	575.76
	taxi	8 52	8.68	8 81	9.01	9 21	9.66	10 16	10.69	11.37	11.85	12.55
	buses	13.52	14.04	14.77	15.67	16.62	17.84	18 86	20.20	235.1	24.21	26.20
	goods	52.37	61 67	71.59	77.20	83 25	92 78	101.83	107.63	2432.32	116.38	12.51
	all	841.26	961.03	1111.66	1276 42	1465 59	1637 61	1804 49	1963 00	2097.16	2239.00	2319.73
Calcutta	2-wh	86.42	115 88	135.59	150.84	167 81	184.30	195.00	211.13	222.07	233.63	246.68
	3-wh	0.17	3.91	4.81	8.81	16.15	19 18	20.28	21.12	22.06	23.85	24.63
	car+jeep	135.19	146.92	154.71	161.96	169.54	176.10	186.31	187.24	193.95	206.47	207.87
	taxi	10.07	13.54	13.95	15.35	16 88	18.19	19.24	19.57	19.94	21.26	21.34
	buses	5.61	5.22	11.38	11.78	12 19	12.43	13.16	12.90	13.06	13.46	13.57
	goods	48.43	35.06	31.15	36.08	41 80	38.80	41.04	44.65	45.44	46.08	46.44
	all	285.88	320.53	351 58	386.26	424.37	448.99	475.03	496.62	516.52	544.76	560.54
Mumbai	2-wh	137 41	159.46	186.95	203 51	221.53	231 93	242.01	252.30	240.46	258.96	280.05
	3-wh	39.35	39 35	39.35	39.35	39.35	39.35	39.35	39.35	35.20	44.20	58.10
	car+jeep	181 25	205 73	222.37	235.29	248.96	258.32	264.95	270.31	204.20	219.44	235.98
	taxi	34 34	34.34	34.34	34.34	34 34	34 34	34.34	35 68	32.35	33.61	40.23
	buses	6.18	6.50	6.71	6 92	7.13	7.52	7.97	8.16	8.11	11.39	11.80
	goods	33.26	34.70	32.69	34.71	36 85	38.45	39.87	40.83	37.83	40.70	41.21
	all	431.79	480.07	522.41	554.31	588.16	609.90	628.49	646.63	558.14	608.30	667.38

Annexure 5.1. Growth of motorized vehicles in the four cities

City	Mode	Number of vehicles registered (in thousands)										
Source		3	3	3	interpol	2	2	1	1	1x&4x	4x	
Year		1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Bangalore	2-wh	189.62	216.23	257.78	297.67	343.73	401.81	442.37	464.26	498.27	535.95	594.41
	3-wh	12.35	10.45	11.51	14.37	17.93	17.68	18.51	22.84	25.17	31.06	37.50
	car+jeep	52.78	58.06	64.81	68.25	71.88	76.90	84.64	82.03	93.07	99.98	112.70
	taxi	2.03	1.76	1.88	1.98	2.09	2.22	2.42	2.60	2.77	2.21	4.01
	buses	6.16	5.17	6.23	6.66	7.13	6.68	6.86	7.25	8.11	8.65	10.58
	goods	15.72	14.92	12.74	15.19	18.11	18.98	22.13	25.87	27.01	38.63	38.40
	all	278.65	306.59	354.95	404.46	460.88	524.26	576.91	604.85	654.39	716.47	797.61
All India	2-wh			7658.27			12530.91	14199.86	15660.80	17183.22	18898.70	20834.33
	3-wh			437.22			677.06	774.30	801.24	870.07	907.93	1038.82
	car+jeep			1709.16			2491.40	2710.24	2942.44	3062.89	3206.27	3486.79
	taxi			185.95			244.62	243.75	262.34	297.94	362.62	350.04
	buses			246.85			312.54	331.10	358.17	363.96	392.15	424.95
	goods			2109.11			2920.22	3114.96	3482.43	3727.26	3892.21	4152.00
	all			12346.55			19176.76	21374.20	23507.41	25505.35	27659.88	30286.92

Source: 1x. GOI (June 1994). "Motor Transport Statistics of India 1991-93", Transport Research Wing, Ministry of Surface Transport. pages 21 (90/91), 22(91/92) & 23 (92/93), 2x. GOI (June 1994) "Motor Transport Statistics of India 1989-91", Transport Research Wing, Ministry of Surface Transport. pages 22 (89/90), 23 (88/89); 3x. ACMA (various issues) "Automotive Industry of India: Facts and Figures (86/87 in 89/89; 85/86 in 1988 and 84/85 in 1987)", Automotive Component Manufacturers Association of India; 4x GOI. "Motor Transport Statistics of India for recent year? (not published)", Transport Research Wing, Ministry of Surface Transport.

Annexure 5.2. Growth of motorized vehicles in the four cities

City	Mode	Compound annual growth rate (%)										
		1984/85-85/86	1985/86-86/87	1986/87-87/88	1987/88-88/89	1988/89-89/90	1989/90-90/91	1990/91-91/92	1991/92-92/93	1992/93-93/94	1984/85-94/95	1990/91-94/95
Delhi	2-wh	14.9	15.8	14.5	14.5	10.3	9.6	7.9	6.5	6.4	10.8	7.3
	3-wh	6.2	8.6	25.7	25.7	7.7	6.9	6.5	5.0	2.3	9.6	4.4
	car+jeep	13.9	17.9	17.6	17.6	9.3	21.9	12.9	8.5	9.3	13.8	10.2
	taxi	1.9	1.5	2.3	2.3	4.9	5.2	5.3	6.3	4.2	3.9	5.4
	buses	3.8	5.2	6.1	6.1	7.4	5.7	6.1	16.1	4.3	6.8	8.6
	goods	17.8	16.1	7.8	7.8	11.4	9.8	5.7	3.4	4.6	9.10	5.28
	all	14.2	15.7	14.8	14.8	11.7	10.2	8.8	6.8	6.8	11.2	7.75
Calcutta	2-wh	34.1	17.0	11.3	11.3	9.8	5.8	8.3	5.2	5.2	11.1	6.1
	3-wh	2242.5	22.9	83.3	83.3	18.7	5.8	4.1	4.4	8.1	64.8	5.0
	car+jeep	8.7	5.3	4.7	4.7	3.9	5.8	0.5	3.6	6.5	4.4	2.8
	taxi	34.4	3.1	10.0	10.0	7.7	5.8	1.7	1.9	6.6	7.8	2.6
	buses	-6.9	117.8	3.5	3.5	2.0	5.9	-1.9	1.2	3.0	9.2	0.8
	goods	-27.6	-11.2	15.8	15.8	-7.2	5.8	8.8	1.8	1.4	-0.4	3.1
	all	12.1	9.7	9.9	9.9	5.8	5.8	4.5	4.0	5.5	7.0	4.2
Mumbai	2-wh	16.0	17.2	8.9	8.9	4.7	4.3	4.3	-2.3	5.1	7.4	3.7
	3-wh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-12.9	28.9	4.0	10.2
	car+jeep	13.5	8.1	5.8	5.8	3.8	2.6	2.0	-30.8	17.2	2.7	-2.9
	taxi	0.0	0.0	0.0	0.0	0.0	0.0	3.9	-9.1	3.6	1.6	4.0
	buses	5.1	3.4	3.0	3.0	5.5	5.9	2.5	7.7	29.6	6.7	10.3
	goods	4.3	-5.8	6.2	6.2	4.3	3.7	2.4	-7.3	7.6	2.2	0.8
	all	11.2	8.8	6.1	6.1	3.7	3.0	2.9	-15.4	11.2	4.5	1.5
Bangalore	2-wh	14.0	19.2	15.5	15.5	16.9	10.1	4.9	7.3	7.6	12.1	7.7
	3-wh	-15.4	10.2	24.8	24.8	-1.4	4.7	23.4	10.2	23.4	11.8	19.3

Annexure 5.2. Growth of motorized vehicles in the four cities

City	Mode	Compound annual growth rate (%)										
		1984/85-85/86	1985/86-86/87	1986/87-87/88	1987/88-88/89	1988/89-89/90	1989/90-90/91	1990/91-91/92	1991/92-92/93	1992/93-93/94	1984/85-94/95	1990/91-94/95
Delhi	2-wh	14.9	15.8	14.5	14.5	10.3	9.6	7.9	6.5	6.4	10.8	7.3
	car+jeep	10.0	11.6	5.3	5.3	7.0	10.1	-3.1	13.4	7.4	7.9	7.4
	taxi	-13.4	7.3	5.3	5.3	6.2	9.0	7.7	6.2	-20.1	7.1	13.5
	buses	-16.0	20.5	7.0	7.0	-6.3	2.6	5.8	11.8	6.6	5.6	11.5
	goods	-5.1	-14.6	19.2	19.2	4.8	16.6	16.9	4.4	43.0	9.3	14.8
	all	10.0	15.8	13.9	13.9	13.8	10.0	4.8	8.2	9.5	11.1	8.4
All India	2-wh						13.3	10.3	8.9	7.5	-	10.1
	3-wh						14.4	3.5	9.3	2.6	-	7.6
	car+jeep						8.8	8.6	4.0	6.9	-	6.5
	taxi						-0.4	7.6	8.4	22.1	-	9.5
	buses						5.9	8.2	6.2	10.2	-	6.4
	goods						6.7	11.8	5.8	7.3	-	7.4
	all						11.5	10.0	7.8	7.4	-	9.1

Annexure 5.3. Changes in vehicle composition (%)

City	Modes	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Delhi	2-wh	68.84	69.21	69.28	69.09	68.84	69.04	67.64	67.10	66.90	66.65	66.51
	3-wh	3.57	3.32	3.11	3.41	3.73	3.65	3.49	3.42	3.36	3.22	3.08
	car+jeep	18.75	18.70	19.05	19.52	19.98	19.85	21.61	22.42	22.78	23.33	23.67
	taxi	1.01	0.90	0.79	0.71	0.63	0.60	0.56	0.54	0.54	0.53	0.52
	buses	1.61	1.46	1.33	1.23	1.13	1.11	1.05	1.03	1.11	1.08	1.08
	goods	6.23	6.42	6.44	6.05	5.68	5.75	5.64	5.48	5.31	5.20	5.14
	all	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Calcutta	2-wh	30.23	36.15	38.57	39.20	39.54	41.05	41.05	42.51	42.99	42.89	44.01
	3-wh	0.06	1.22	1.37	2.29	3.81	4.27	4.27	4.25	4.27	4.38	4.39
	car+jeep	47.29	45.84	44.01	42.09	39.95	39.22	39.22	37.70	37.55	37.90	37.08
	taxi	3.52	4.22	3.97	3.99	3.98	4.05	4.05	3.94	3.86	3.90	3.81
	buses	1.96	1.63	3.24	3.06	2.87	2.77	2.77	2.60	2.53	2.47	2.42
	goods	16.94	10.94	8.86	9.38	9.85	8.64	8.64	8.99	8.80	8.46	8.29
	all	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Mumbai	2-wh	31.82	33.22	35.79	36.73	37.67	38.03	38.51	39.02	43.08	42.57	41.96
	3-wh	9.11	8.20	7.53	7.10	6.69	6.45	6.26	6.09	6.31	7.27	8.71
	car+jeep	41.98	42.85	42.57	42.46	42.33	42.35	42.16	41.80	36.59	36.07	35.36
	taxi	7.95	7.15	6.57	6.20	5.84	5.63	5.46	5.52	5.80	5.52	6.03
	buses	1.43	1.35	1.29	1.25	1.21	1.23	1.27	1.26	1.45	1.87	1.77
	goods	7.70	7.23	6.26	6.26	6.27	6.30	6.34	6.31	6.78	6.69	6.18
	all	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bangalore	2-wh	68.05	70.53	72.63	73.66	74.58	76.64	76.68	76.76	76.14	74.80	74.52
	3-wh	4.43	3.41	3.24	3.55	3.89	3.37	3.21	3.78	3.85	4.34	4.70
	car+jeep	18.94	18.94	18.26	16.89	15.60	14.67	14.67	13.56	14.22	13.95	14.13
	taxi	0.73	0.57	0.53	0.49	0.45	0.42	0.42	0.43	0.42	0.31	0.50
	buses	2.21	1.69	1.75	1.65	1.55	1.27	1.19	1.20	1.24	1.21	1.33
	goods	5.64	4.87	3.59	3.76	3.93	3.62	3.84	4.28	4.13	5.39	4.81
	all	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Annexure 5.4. Time trend regression coefficients using data for the period 1984/85 to 1994/95

Mode	Delhi				Calcutta			Mumbai	Bangalore			
	a	b t	c lnt	R^2	a	b t	R^2	CAGR (%) 1992/93-94/95	a	b t	c lnt	R^2
2-wh	470776.9	104396.5	-	0 99	85602 5	15268 7	0 98	7.92%	142587.3	40509.7	-	0.99
	(48.4)	(72.76)			(19.5)	(23.6)			(21.2)	(40 9)		
3-wh	24739.1	4988.6	-	0 96	-416 6	2568.9	0.92	28.49%	9.1	-	0.12	0.94
	(10.3)	(14.04)			(-0.24)*	(10.1)			(133.2)		(11.93)	
Car+jeep	88573 7	43071.8	-	0 99	132203.0	7151.6	0.99	7.50%	46335.7	5385.1	-	0.96
	(9.3)	(30.5)			(74.4)	(27.3)			(19.5)	(15.4)		
Taxi	9 0	-	0.04	0.96	10880.5	1055.1	0.94	11.53%	7.4	-	0.06	0.66
	(495.3)		(14.9)		(17.9)	(11.8)			(81.6)		(4.20)	
Bus	9.4	-	0.07	0 99	10785.8**	267.5	0.93	20.64%	8.6	-	0.05	0.81
	(503.1)		(24.7)		(50.2)	(9.3)			(150.8)		(6.18)	
Goods	50686.2	6530 0	-	0.96	-	-	-	4 37%	-	-	-	-
	(16.9)	(14 8)										
All	-	-	-	-	271749.2	27603.5	0.99	9.35%	208211.1	51359.0	-	0.99
					(40 7)	(28.1)			(22.9)	(38.4)		

*insignificant at 95% level of confidence

**data pertains to 1985/86 to 1994/95

Figures in parentheses are t-values with 9 degrees of freedom and significant at 95% level of confidence.

Appendix 5.5 Penetration of different technologies by mode of transport (%)

S no	Mode	Vehicle type	Annual sales of 2-whs (% composition)						Assumed distribution (%)				
			1981-85	1985 86	1986 87	1991 92	1992 93	1993/94	1990/91	1995/96	2000 01	2005/06	2010/11
Delhi	Scooter/M-cycle	2 stroke	100	94	97	95	93	96	96	95	93	91	89
		4 stroke	0	6	3	5	7	4	4	5	7	9	11
	Car Jeep	Pre 1984	44	15	15	10	6	7	20	15	8	2	1
		Post 1984	41	79	80	81	85	84	72	75	60	47	35
		Catalytic con	0	0	0	0	0	0	0	2	17	30	40
		Diesel	15	6	5	9	9	9	8	8	15	21	24
	Taxi	Petrol							60	30	20	10	5
		Diesel							40	70	80	90	95
West Bengal	Scooter/M-cycle	2 stroke	100	92	94	89	89	89	94	92	91	89	88
		4 stroke	0	8	6	11	11	11	6	8	9	11	12
	Car/Jeep	Pre 1984	52	33	29	20	15	13	39	32	24	17	12
		Post 1984	12	38	50	52	55	59	30	38	25	20	16
		Catalytic con	0	0	0	0	0	0	0	2	17	27	35
		Diesel	36	29	22	27	30	29	31	28	34	36	37
	Taxi	Petrol							60	30	20	10	5
		Diesel							40	70	80	90	95
Maharashtra	Scooter/M-cycle	2 stroke	99	90	90	85	83	85	93	86	84	82	80
		4 stroke	1	10	10	15	17	15	7	14	16	18	20
	Car/Jeep	Pre 1984	62	39	35	26	26	24	46	30	24	20	12
		Post 1984	14	41	42	43	45	47	33	40	31	20	18
		Catalytic con	0	0	0	0	0	0	0	2	15	25	32
		Diesel	24	20	23	31	29	29	22	28	30	35	38
	Taxi	Petrol							60	30	20	10	5
		Diesel							40	70	80	90	95
Karnataka	Scooter/M-cycle	2 stroke	100	92	91	87	84	84	94	84	77	68	62
		4 stroke	0	8	9	13	16	16	6	16	23	32	38
	Car/Jeep	Pre 1984	50	29	28	12	10	7	33	20	16	14	11
		Post 1984	15	49	53	59	60	65	42	51	52	50	49
		Catalytic con	0	0	0	0	0	0	0	0	0	0	0
		Diesel	35	23	19	28	30	28	25	29	32	36	40
	Taxi	Petrol							60	30	20	10	5
		Diesel							40	70	80	90	95

Annexure 5.6

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AREA: SAREC
SCENARIO: BA - BASE CASE

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS (THOUSAND TONNES OIL EQ)

	1991	1996	2001	2006	2011
Del-Passenger	602.51	804.27	1078.33	1319.35	1614.33
Del-Freight	86.23	112.47	109.07	91.06	73.74
Cal-Passenger	254.18	259.31	302.21	322.16	343.07
Cal-Freight	10.54	12.25	14.32	13.64	13.09
Bom-Passenger	331.81	402.05	485.90	589.27	711.05
Bom-Freight	15.97	18.60	22.11	26.36	31.32
Ban-Passenger	168.28	269.41	360.85	474.03	663.66
Ban-Freight	9.35	13.84	6.83	5.02	3.11
TOTAL	1478.88	1892.21	2379.63	2840.89	3453.37

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES (THOUSAND TONNES OIL EQ)

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh	83.06	114.20	132.18	128.45	129.21
3-wh	85.81	112.90	145.55	151.97	158.70
Car/Jeep	240.75	328.21	439.60	551.25	653.23
Taxi	27.61	24.55	31.21	39.34	43.22
Bus	165.29	224.41	329.79	448.32	629.97
Del-Freight					
hcv	53.03	66.95	61.80	48.79	36.34
lcv	33.21	45.52	47.27	42.27	37.40
Cal-Passenger					
2-wh	13.99	18.70	19.04	18.70	18.83
3-wh	27.77	41.67	59.29	62.99	66.67
Car/Jeep	138.21	120.88	132.45	141.92	152.45
Taxi	52.33	50.49	63.85	70.97	77.55
Bus	21.87	27.58	27.58	27.59	27.58
Cal-Freight					
hcv	6.77	8.56	9.84	8.12	7.13
lcv	3.77	3.69	4.48	5.52	5.95
Bom-Passenger					
2-wh	13.02	15.36	18.44	22.14	26.58
3-wh	49.59	59.94	72.46	87.59	105.88
Car/Jeep	53.90	63.18	75.03	91.12	108.05
Taxi	49.20	62.81	77.28	95.04	115.88
Bus	166.10	200.77	242.70	293.38	354.67
Bom-Freight					
hcv	10.10	10.44	12.05	13.82	15.75
lcv	5.87	8.16	10.06	12.54	15.57
Ban-Passenger					
2-wh	31.30	41.95	48.71	45.34	45.60
3-wh	15.74	40.27	81.00	158.52	289.83
Car/Jeep	59.97	67.04	77.82	89.69	93.20
Taxi	6.55	6.92	10.71	16.00	22.00
Bus	54.72	113.24	142.62	164.48	213.04
Ban-Freight					
hcv	5.98	6.90	3.28	2.30	1.35
lcv	3.37	6.94	3.55	2.72	1.75
TOTAL	1478.88	1892.21	2379.63	2840.89	3453.37

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	13.43%	13.71%	11.66%	9.13%	7.39%
4 stroke	0.36%	0.49%	0.59%	0.61%	0.62%
3-wh					
2 stroke	14.24%	14.04%	13.50%	11.52%	9.83%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	10.66%	8.20%	4.36%	1.12%	0.54%
Post 1984 model	25.05%	27.25%	21.75%	17.45%	12.48%
Cat. convertor	0.00%	0.70%	5.92%	10.70%	13.71%
Diesel	4.25%	4.66%	8.73%	12.51%	13.73%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	2.54%	0.80%	0.50%	0.25%	0.11%
Diesel	2.04%	2.25%	2.40%	2.73%	2.56%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	27.43%	27.90%	30.58%	33.98%	39.02%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv	61.49%	59.53%	56.66%	53.58%	49.28%
lcv	38.51%	40.47%	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	5.29%	6.81%	5.91%	5.36%	5.03%
4 stroke	0.22%	0.40%	0.39%	0.45%	0.46%
3-wh					
2 stroke	10.93%	16.07%	19.62%	19.55%	19.43%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	23.00%	16.87%	11.99%	8.72%	6.31%
Post 1984 model	12.00%	13.32%	8.30%	6.82%	5.60%
Cat. convertor	0.00%	0.67%	5.42%	8.84%	11.76%
Diesel	19.38%	15.75%	18.11%	19.68%	20.76%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	11.43%	5.12%	3.64%	1.86%	0.95%
Diesel	9.16%	14.35%	17.49%	20.17%	21.66%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	8.60%	10.63%	9.13%	8.56%	8.04%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv	64.21%	69.85%	68.72%	59.54%	54.51%
lcv	35.79%	30.15%	31.28%	40.46%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	3.75%	3.44%	3.36%	3.27%	3.20%
4 stroke	0.18%	0.38%	0.43%	0.49%	0.54%
3-wh					
2 stroke	14.94%	14.91%	14.91%	14.86%	14.89%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	8.19%	5.37%	4.30%	3.57%	2.15%
Post 1984 model	3.90%	4.76%	3.69%	2.37%	2.14%
Cat. Convertor	0.00%	0.23%	1.72%	2.85%	3.66%
Diesel	4.15%	5.35%	5.73%	6.67%	7.25%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	8.23%	4.11%	2.74%	1.36%	0.68%
Diesel	6.60%	11.52%	13.17%	14.76%	15.61%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	50.06%	49.94%	49.95%	49.79%	49.88%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv	63.26%	56.12%	54.51%	52.43%	50.29%
lcv	36.74%	43.88%	45.49%	47.57%	49.71%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	17.79%	13.79%	11.23%	7.26%	4.86%
4 stroke	0.82%	1.78%	2.27%	2.31%	2.01%
3-wh					
2 stroke	9.35%	14.95%	22.45%	33.44%	43.67%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	13.60%	5.87%	4.07%	3.09%	1.79%
Post 1984 model	11.27%	9.94%	8.80%	7.34%	5.30%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	10.76%	9.07%	8.69%	8.48%	6.95%
Taxi					
Petrol	2.16%	0.67%	0.51%	0.29%	0.14%
Diesel	1.73%	1.89%	2.46%	3.09%	3.18%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	32.52%	42.03%	39.52%	34.70%	32.10%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv	63.96%	49.85%	48.08%	45.83%	43.52%
lcv	36.04%	50.15%	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: FUEL BY SECTOR, 1991
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	399.35	0.00	159.78	0.00	130.06	0.00	92.54	0.00	781.72
DIESEL/GAS OIL	203.16	86.23	94.41	10.54	201.75	15.97	75.74	9.35	697.16
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	602.51	86.23	254.18	10.54	331.81	15.97	168.28	9.35	1478.88

ENERGY DEMAND: FUEL BY SECTOR, 1996
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	524.25	0.00	153.68	0.00	133.47	0.00	126.63	0.00	938.04
DIESEL/GAS OIL	280.02	112.47	105.63	12.25	268.58	18.60	142.78	13.84	954.17
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	804.27	112.47	259.31	12.25	402.05	18.60	269.41	13.84	1892.21

ENERGY DEMAND: FUEL BY SECTOR, 2001
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	628.61	0.00	167.04	0.00	151.37	0.00	178.01	0.00	1125.03
DIESEL/GAS OIL	449.72	109.07	135.18	14.32	334.53	22.11	182.85	6.83	1254.60
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1078.33	109.07	302.21	14.32	485.90	22.11	360.85	6.83	2379.63

ENERGY DEMAND: FUEL BY SECTOR, 2006
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	669.96	0.00	166.20	0.00	169.61	0.00	254.69	0.00	1260.45
DIESEL/GAS OIL	649.39	91.06	155.96	13.64	419.66	26.36	219.35	5.02	1580.44
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1319.35	91.06	322.16	13.64	589.27	26.36	474.03	5.02	2840.89

ENERGY DEMAND: FUEL BY SECTOR, 2011
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	721.23	0.00	169.97	0.00	193.81	0.00	383.44	0.00	1468.46
DIESEL/GAS OIL	893.09	73.74	173.10	13.09	517.24	31.32	280.22	3.11	1984.91
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1614.33	73.74	343.07	13.09	711.05	31.32	663.66	3.11	3453.37

Annexure 5.7

AREA: SAREC
SCENARIOS: BABA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	132.31	169.47	193.76	191.91	200.62
Del-Freight	6.37	8.27	7.96	6.59	5.28
Cal-Passenger	54.55	51.73	53.59	50.28	48.61
Cal-Freight	0.78	0.92	1.08	1.00	0.95
Bom-Passenger	52.88	54.92	61.70	69.35	78.55
Bom-Freight	1.19	1.36	1.60	1.90	2.25
Ban-Passenger	36.32	51.39	70.79	96.74	141.83
Ban-Freight	0.70	0.99	0.49	0.36	0.22
TOTAL	285.10	339.05	390.96	418.13	478.30

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	53.79	70.20	81.96	80.63	82.48
Del-Freight	0.97	1.25	1.19	0.98	0.77
Cal-Passenger	17.70	19.69	22.51	22.14	22.24
Cal-Freight	0.12	0.14	0.17	0.15	0.14
Bom-Passenger	19.88	21.77	25.23	29.31	34.15
Bom-Freight	0.18	0.20	0.24	0.28	0.33
Ban-Passenger	15.38	22.81	32.68	47.11	73.63
Ban-Freight	0.11	0.15	0.07	0.05	0.03
TOTAL	108.13	136.21	164.05	180.65	213.78

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
(THOUSAND KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	78.48	101.93	110.99	103.91	98.25
Del-Freight	0.00	0.00	0.00	0.00	0.00
Cal-Passenger	31.40	29.86	29.61	27.07	25.47
Cal-Freight	0.00	0.00	0.00	0.00	0.00
Bom-Passenger	25.56	26.05	28.11	30.03	32.98
Bom-Freight	0.00	0.00	0.00	0.00	0.00
Ban-Passenger	18.19	24.89	34.98	50.05	75.36
Ban-Freight	0.00	0.00	0.00	0.00	0.00
TOTAL	153.63	182.73	203.69	211.06	232.06

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	22.49	30.00	40.16	50.42	65.56
Del-Freight	10.73	13.93	13.42	11.13	8.93
Cal-Passenger	6.95	6.71	6.70	6.60	6.59
Cal-Freight	1.32	1.55	1.81	1.69	1.60
Bom-Passenger	16.28	19.26	22.93	27.34	32.71
Bom-Freight	1.99	2.29	2.71	3.21	3.80
Ban-Passenger	6.49	11.48	14.36	16.67	21.05
Ban-Freight	1.17	1.68	0.82	0.60	0.37
TOTAL	67.43	86.90	102.91	117.68	140.62

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	3.03	4.11	6.01	8.03	10.49
Del-Freight	0.82	1.07	1.04	0.87	0.70
Cal-Passenger	1.34	1.43	1.75	1.94	2.12
Cal-Freight	0.10	0.12	0.14	0.13	0.12
Bom-Passenger	2.28	2.92	3.60	4.46	5.46
Bom-Freight	0.15	0.18	0.21	0.25	0.30
Ban-Passenger	0.98	1.71	2.23	2.79	3.72
Ban-Freight	0.09	0.13	0.07	0.05	0.03
TOTAL	8.79	11.67	15.04	18.52	22.94

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	6.03	8.11	10.30	11.59	13.39
Del-Freight	1.02	1.33	1.28	1.06	0.85
Cal-Passenger	1.88	2.16	2.52	2.64	2.76
Cal-Freight	0.13	0.15	0.17	0.16	0.15
Bom-Passenger	2.79	3.40	4.10	4.97	5.99
Bom-Freight	0.19	0.22	0.26	0.31	0.36
Ban-Passenger	1.83	2.89	3.86	5.01	7.15
Ban-Freight	0.11	0.16	0.08	0.06	0.04
TOTAL	13.98	18.43	22.58	25.79	30.69

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	29.56%	31.46%	31.39%	30.33%	28.74%
4 stroke	1.15%	1.64%	2.34%	2.97%	3.51%
3-wh					
2 stroke	21.24%	21.82%	24.61%	25.94%	25.91%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	17.37%	13.92%	8.69%	2.75%	1.54%
Post 1984 model	20.17%	22.87%	21.42%	21.22%	17.77%
Cat. convertor	0.00%	0.17%	1.66%	3.71%	5.56%
Diesel	0.22%	0.25%	0.55%	0.97%	1.24%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	4.14%	1.36%	0.99%	0.62%	0.32%
Diesel	0.10%	0.12%	0.15%	0.21%	0.23%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	6.03%	6.40%	8.22%	11.28%	15.17%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	67.62%	65.80%	63.10%	60.15%	55.96%
lcv					
lcv	32.38%	34.20%	36.90%	39.85%	44.04%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	11.91%	16.51%	16.10%	16.59%	17.15%
4 stroke	0.72%	1.42%	1.57%	2.03%	2.31%
3-wh					
2 stroke	16.68%	26.39%	36.24%	41.03%	44.92%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	38.33%	30.26%	24.18%	19.97%	15.94%
Post 1984 model	9.89%	11.81%	8.28%	7.72%	6.99%
Cat. convertor	0.00%	0.17%	1.54%	2.86%	4.19%
Diesel	1.01%	0.89%	1.15%	1.42%	1.65%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	19.05%	9.18%	7.34%	4.27%	2.39%
Diesel	0.48%	0.81%	1.11%	1.45%	1.72%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	1.94%	2.57%	2.49%	2.65%	2.74%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	70.12%	75.19%	74.18%	65.81%	61.05%
lcv					
lcv	29.88%	24.81%	25.82%	34.19%	38.95%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	11.37%	12.18%	12.80%	13.44%	13.99%
4 stroke	0.79%	1.96%	2.41%	2.92%	3.46%
3-wh					
2 stroke	30.72%	35.75%	38.47%	41.37%	44.15%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	18.39%	14.07%	12.11%	10.86%	6.95%
Post 1984 model	4.33%	6.17%	5.14%	3.57%	3.43%
Cat. Convertor	0.00%	0.08%	0.68%	1.22%	1.67%
Diesel	0.29%	0.44%	0.51%	0.64%	0.74%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	18.47%	10.75%	7.71%	4.15%	2.21%
Diesel	0.47%	0.95%	1.17%	1.41%	1.59%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	15.17%	17.66%	19.00%	20.43%	21.81%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	69.25%	62.59%	61.05%	59.05%	56.96%
lcv					
lcv	30.75%	37.41%	38.95%	40.95%	43.04%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	39.84%	34.96%	27.68%	17.19%	10.99%
4 stroke	2.68%	6.59%	8.18%	8.00%	6.66%
3-wh					
2 stroke	14.20%	25.67%	37.48%	53.67%	66.94%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	22.54%	11.00%	7.43%	5.42%	3.00%
Post 1984 model	9.24%	9.22%	7.94%	6.37%	4.39%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.56%	0.53%	0.50%	0.47%	0.37%
Taxi					
Petrol	3.58%	1.27%	0.93%	0.50%	0.23%
Diesel	0.09%	0.11%	0.14%	0.17%	0.17%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	7.28%	10.64%	9.73%	8.21%	7.26%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	69.89%	56.53%	54.78%	52.53%	50.19%
lcv					
lcv	30.11%	43.47%	45.22%	47.47%	49.81%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	45.32%	47.34%	46.25%	45.00%	43.57%
4 stroke	0.25%	0.34%	0.48%	0.61%	0.74%
3-wh					
2 stroke	32.61%	32.87%	36.30%	38.53%	39.33%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	9.16%	7.20%	4.40%	1.40%	0.80%
Post 1984 model	7.83%	8.71%	7.99%	7.97%	6.82%
Cat. convertor	0.00%	0.05%	0.45%	1.02%	1.56%
Diesel	0.14%	0.15%	0.33%	0.59%	0.77%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	2.18%	0.70%	0.50%	0.32%	0.17%
Diesel	0.07%	0.07%	0.09%	0.13%	0.14%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	2.45%	2.55%	3.21%	4.44%	6.10%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	73.90%	72.28%	69.86%	67.17%	63.26%
lcv					
lcv	26.10%	27.72%	30.14%	32.83%	36.74%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	22.87%	27.03%	23.89%	23.49%	23.37%
4 stroke	0.19%	0.32%	0.32%	0.40%	0.44%
3-wh					
2 stroke	32.07%	43.25%	53.83%	58.15%	61.28%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	25.32%	17.03%	12.34%	9.72%	7.47%
Post 1984 model	4.81%	4.90%	3.11%	2.77%	2.41%
Cat. convertor	0.00%	0.05%	0.42%	0.75%	1.06%
Diesel	0.80%	0.59%	0.70%	0.82%	0.92%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	12.58%	5.16%	3.74%	2.08%	1.12%
Diesel	0.38%	0.54%	0.67%	0.84%	0.96%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.99%	1.12%	0.98%	1.00%	0.99%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	76.08%	80.42%	79.57%	72.29%	68.00%
lcv					
lcv	23.92%	19.58%	20.43%	27.71%	32.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	18.84%	19.15%	19.51%	19.82%	20.07%
4 stroke	0.18%	0.43%	0.51%	0.60%	0.69%
3-wh					
2 stroke	50.97%	56.27%	58.69%	61.08%	63.38%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	10.48%	7.61%	6.35%	5.50%	3.43%
Post 1984 model	1.82%	2.45%	1.98%	1.33%	1.24%
Cat. Convertor	0.00%	0.02%	0.19%	0.33%	0.44%
Diesel	0.20%	0.28%	0.32%	0.38%	0.43%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	10.53%	5.81%	4.04%	2.10%	1.09%
Diesel	0.31%	0.61%	0.72%	0.85%	0.93%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	6.67%	7.37%	7.68%	8.00%	8.30%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	75.32%	69.39%	68.00%	66.15%	64.20%
lcv					
lcv	24.68%	30.61%	32.00%	33.85%	35.80%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	58.64%	49.09%	37.37%	22.01%	13.20%
4 stroke	0.55%	1.29%	1.53%	1.42%	1.11%
3-wh					
2 stroke	20.92%	36.09%	50.66%	68.78%	80.45%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	11.41%	5.31%	3.45%	2.39%	1.24%
Post 1984 model	3.44%	3.28%	2.71%	2.06%	1.33%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.34%	0.31%	0.27%	0.24%	0.18%
Taxi					
Petrol	1.81%	0.61%	0.43%	0.22%	0.10%
Diesel	0.05%	0.06%	0.08%	0.09%	0.08%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	2.84%	3.97%	3.49%	2.79%	2.31%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	75.88%	63.80%	62.15%	60.00%	57.73%
lcv					
lcv	24.12%	36.20%	37.85%	40.00%	42.27%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	20.26%	21.26%	22.27%	22.77%	23.85%
4 stroke	0.54%	0.76%	1.13%	1.52%	1.99%
3-wh					
2 stroke	21.49%	21.77%	25.77%	28.74%	31.75%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	16.09%	12.71%	8.33%	2.79%	1.73%
Post 1984 model	37.79%	42.26%	41.54%	43.55%	40.31%
Cat. convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.84%	1.24%	0.95%	0.63%	0.36%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	8.41%	11.62%	11.85%	12.53%	13.30%
4 stroke	0.35%	0.68%	0.79%	1.05%	1.23%
3-wh					
2 stroke	17.38%	27.43%	39.36%	45.74%	51.44%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	36.59%	28.80%	24.05%	20.39%	16.71%
Post 1984 model	19.09%	22.73%	16.65%	15.94%	14.81%
Cat. convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	18.18%	8.73%	7.30%	4.36%	2.51%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	9.56%	10.44%	11.42%	12.62%	13.55%
4 stroke	0.46%	1.15%	1.47%	1.87%	2.29%
3-wh					
2 stroke	38.13%	45.22%	50.66%	57.32%	63.10%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	20.90%	16.30%	14.61%	13.77%	9.10%
Post 1984 model	9.96%	14.45%	12.54%	9.16%	9.07%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	21.00%	12.45%	9.30%	5.26%	2.90%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	32.34%	29.35%	22.77%	13.51%	8.41%
4 stroke	1.48%	3.78%	4.59%	4.29%	3.48%
3-wh					
2 stroke	17.01%	31.80%	45.50%	62.24%	75.59%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	24.74%	12.48%	8.26%	5.76%	3.10%
Post 1984 model	20.50%	21.16%	17.84%	13.67%	9.18%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.93%	1.44%	1.04%	0.53%	0.24%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	2.09%	2.14%	1.82%	1.39%	1.06%
4 stroke	0.32%	0.44%	0.53%	0.53%	0.51%
3-wh					
2 stroke	1.02%	1.01%	0.97%	0.81%	0.65%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	9.54%	7.34%	3.92%	0.98%	0.44%
Post 1984 model	23.64%	25.74%	20.59%	16.09%	10.83%
Cat. convertor	0.00%	0.22%	1.85%	3.26%	3.93%
Diesel	1.63%	1.79%	3.35%	4.68%	4.83%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	2.28%	0.72%	0.45%	0.22%	0.09%
Diesel	0.78%	0.86%	0.92%	1.02%	0.90%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	58.70%	59.75%	65.61%	71.03%	76.76%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	66.67%	64.82%	62.09%	59.11%	54.89%
lcv					
lcv	33.33%	35.18%	37.91%	40.89%	45.11%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	1.12%	1.53%	1.55%	1.52%	1.52%
4 stroke	0.27%	0.51%	0.59%	0.73%	0.80%
3-wh					
2 stroke	1.07%	1.66%	2.37%	2.55%	2.70%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	28.09%	21.79%	18.08%	14.21%	10.98%
Post 1984 model	15:46%	18.14%	13.21%	11.73%	10.26%
Cat. convertor	0.00%	0.30%	2.85%	5.02%	7.12%
Diesel	10.12%	8.70%	11.69%	13.73%	15.44%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	13.96%	6.61%	5.48%	3.04%	1.65%
Diesel	4.79%	7.93%	11.28%	14.07%	16.11%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	25.13%	32.83%	32.90%	33.39%	33.41%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	69.20%	74.37%	73.34%	64.83%	60.02%
lcv					
lcv	30.80%	25.63%	26.66%	35.17%	39.98%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	0.44%	0.42%	0.41%	0.41%	0.40%
4 stroke	0.12%	0.26%	0.31%	0.35%	0.39%
3-wh					
2 stroke	0.81%	0.83%	0.84%	0.86%	0.87%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	5.58%	3.75%	3.04%	2.57%	1.56%
Post 1984 model	2.80%	3.50%	2.76%	1.80%	1.64%
Cat. Convertor	0.00%	0.06%	0.42%	0.72%	0.92%
Diesel	1.21%	1.60%	1.74%	2.05%	2.25%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	5.60%	2.86%	1.94%	0.98%	0.50%
Diesel	1.92%	3.44%	3.99%	4.55%	4.85%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	81.50%	83.28%	84.55%	85.71%	86.61%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	68.32%	61.57%	60.02%	58.00%	55.89%
lcv					
lcv	31.68%	38.43%	39.98%	42.00%	44.11%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	2.68%	1.88%	1.64%	1.20%	0.89%
4 stroke	0.70%	1.39%	1.89%	2.18%	2.11%
3-wh					
2 stroke	0.65%	0.94%	1.51%	2.54%	3.68%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	11.79%	4.60%	3.42%	2.94%	1.89%
Post 1984 model	10.31%	8.22%	7.79%	7.36%	5.89%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	3.99%	3.04%	3.12%	3.45%	3.13%
Taxi					
Petrol	1.87%	0.53%	0.43%	0.27%	0.15%
Diesel	0.64%	0.63%	0.88%	1.26%	1.43%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	67.37%	78.77%	79.31%	78.80%	80.83%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	68.98%	55.46%	53.71%	51.45%	49.11%
lcv					
lcv	31.02%	44.54%	46.29%	48.55%	50.89%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	7.34%	7.39%	5.76%	4.13%	3.13%
4 stroke	0.20%	0.26%	0.29%	0.28%	0.26%
3-wh					
2 stroke	7.78%	7.56%	6.66%	5.21%	4.16%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	5.83%	4.42%	2.15%	0.51%	0.23%
Post 1984 model	13.69%	14.68%	10.74%	7.89%	5.29%
Cat. convertor	0.00%	0.38%	2.92%	4.84%	5.81%
Diesel	8.03%	8.69%	14.90%	19.58%	20.13%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	1.39%	0.43%	0.25%	0.11%	0.05%
Diesel	3.86%	4.20%	4.09%	4.27%	3.76%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	51.89%	52.01%	52.23%	53.18%	57.19%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	61.49%	59.53%	56.66%	53.58%	49.28%
lcv					
lcv	38.51%	40.47%	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	2.76%	3.40%	2.81%	2.44%	2.24%
4 stroke	0.11%	0.20%	0.19%	0.20%	0.21%
3-wh					
2 stroke	5.71%	8.03%	9.34%	8.92%	8.67%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	12.02%	8.43%	5.71%	3.98%	2.82%
Post 1984 model	6.27%	6.65%	3.95%	3.11%	2.50%
Cat. convertor	0.00%	0.34%	2.58%	4.03%	5.25%
Diesel	35.03%	27.21%	29.84%	31.08%	32.05%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	5.97%	2.56%	1.73%	0.85%	0.42%
Diesel	16.56%	24.81%	28.81%	31.85%	33.43%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	15.56%	18.38%	15.03%	13.52%	12.41%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	64.21%	69.85%	68.72%	59.54%	54.51%
lcv					
lcv	35.79%	30.15%	31.28%	40.46%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	1.50%	1.30%	1.25%	1.19%	1.15%
4 stroke	0.07%	0.14%	0.16%	0.18%	0.19%
3-wh					
2 stroke	5.99%	5.64%	5.54%	5.40%	5.34%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	3.28%	2.03%	1.60%	1.30%	0.77%
Post 1984 model	1.56%	1.80%	1.37%	0.86%	0.77%
Cat. Convertor	0.00%	0.09%	0.64%	1.04%	1.31%
Diesel	5.75%	7.00%	7.36%	8.38%	8.99%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.30%	1.55%	1.02%	0.50%	0.24%
Diesel	9.15%	15.08%	16.91%	18.56%	19.37%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	69.40%	65.37%	64.16%	62.60%	61.87%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	63.26%	56.12%	54.51%	52.43%	50.29%
lcv					
lcv	36.74%	43.88%	45.49%	47.57%	49.71%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	8.44%	5.99%	5.00%	3.39%	2.38%
4 stroke	0.39%	0.77%	1.01%	1.08%	0.99%
3-wh					
2 stroke	4.44%	6.49%	9.99%	15.64%	21.42%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	6.45%	2.55%	1.81%	1.45%	0.88%
Post 1984 model	5.35%	4.32%	3.92%	3.43%	2.60%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	17.67%	13.63%	13.38%	13.73%	11.79%
Taxi					
Petrol	1.02%	0.29%	0.23%	0.13%	0.07%
Diesel	2.84%	2.84%	3.78%	5.00%	5.39%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	53.40%	63.13%	60.88%	56.15%	54.48%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	63.96%	49.85%	48.08%	45.83%	43.52%
lcv					
lcv	36.04%	50.15%	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	39.02%	39.53%	35.54%	30.21%	25.91%
4 stroke	0.24%	0.33%	0.42%	0.47%	0.51%
3-wh					
2 stroke	19.02%	18.59%	18.89%	17.52%	15.84%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	4.34%	3.31%	1.86%	0.52%	0.26%
Post 1984 model	11.64%	12.56%	10.60%	9.24%	7.00%
Cat. convertor	0.00%	0.11%	0.96%	1.88%	2.56%
Diesel	2.60%	2.83%	5.60%	8.73%	10.16%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	1.04%	0.32%	0.21%	0.12%	0.06%
Diesel	1.25%	1.37%	1.54%	1.90%	1.90%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	20.85%	21.04%	24.37%	29.42%	35.80%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	66.32%	64.46%	61.72%	58.74%	54.51%
lcv					
lcv	33.68%	35.54%	38.28%	41.26%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	20.84%	23.76%	20.57%	19.04%	18.18%
4 stroke	0.20%	0.33%	0.32%	0.37%	0.39%
3-wh					
2 stroke	19.79%	25.76%	31.39%	31.94%	32.30%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	12.70%	8.25%	5.85%	4.34%	3.20%
Post 1984 model	7.56%	7.43%	4.62%	3.87%	3.24%
Cat. convertor	0.00%	0.12%	1.00%	1.67%	2.26%
Diesel	16.11%	11.58%	13.30%	14.75%	15.83%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	6.31%	2.50%	1.77%	0.93%	0.48%
Diesel	7.61%	10.56%	12.84%	15.12%	16.51%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	8.87%	9.70%	8.31%	7.96%	7.60%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	68.87%	74.07%	73.04%	64.48%	59.65%
lcv					
lcv	31.13%	25.93%	26.96%	35.52%	40.35%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	12.95%	11.83%	11.58%	11.29%	11.04%
4 stroke	0.14%	0.30%	0.35%	0.39%	0.44%
3-wh					
2 stroke	23.73%	23.54%	23.60%	23.57%	23.62%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	3.97%	2.59%	2.07%	1.73%	1.04%
Post 1984 model	2.16%	2.62%	2.03%	1.31%	1.18%
Cat. Convertor	0.00%	0.04%	0.31%	0.52%	0.67%
Diesel	3.02%	3.88%	4.16%	4.85%	5.28%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.98%	1.98%	1.32%	0.66%	0.33%
Diesel	4.81%	8.35%	9.56%	10.74%	11.36%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	45.24%	44.89%	45.00%	44.94%	45.04%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	67.99%	61.20%	59.65%	57.62%	55.51%
lcv					
lcv	32.01%	38.80%	40.35%	42.38%	44.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	47.52%	37.39%	30.51%	19.98%	13.12%
4 stroke	0.51%	1.13%	1.44%	1.49%	1.27%
3-wh					
2 stroke	11.48%	18.62%	28.02%	42.30%	54.17%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	5.09%	2.23%	1.55%	1.19%	0.68%
Post 1984 model	4.82%	4.31%	3.82%	3.23%	2.29%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	6.06%	5.18%	4.98%	4.92%	3.95%
Taxi					
Petrol	0.81%	0.26%	0.19%	0.11%	0.05%
Diesel	0.97%	1.08%	1.41%	1.79%	1.81%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	22.73%	29.80%	28.08%	24.98%	22.67%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	68.64%	55.08%	53.32%	51.07%	48.72%
lcv					
lcv	31.36%	44.92%	46.68%	48.93%	51.28%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

Annexure 5.8

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                        21/06/97, 12:23:11
                           AREA: SAREC
                  SCENARIO: S1 - WITH MORE BUSES

          ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
                      (THOUSAND TONNES OIL EQ)

                      1991      1996      2001      2006      2011
                      ----      ----      ----      ----      ----
Del-Passenger       602.51    760.79    974.05   1136.28   1348.94
Del-Freight          86.23    112.47    109.07     91.06     73.74
Cal-Passenger       254.18    244.68    231.71    198.43    162.67
Cal-Freight          10.54     12.25     14.32     13.64     13.09
Bom-Passenger       331.81    393.73    466.07    553.00    653.38
Bom-Freight          15.97     18.60     22.11     26.36     31.32
Ban-Passenger       168.28    286.25    353.31    410.92    524.70
Ban-Freight           9.35     13.84      6.83      5.02      3.11
                    ------    ------    ------    ------    ------
TOTAL              1478.88   1842.62   2177.48   2434.70   2810.95


          ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
                      (THOUSAND TONNES OIL EQ)

                      1991      1996      2001      2006      2011
                      ----      ----      ----      ----      ----
Del-Passenger
  2-wh               83.06     97.15    111.76    113.61    111.80
  3-wh               85.81     94.36     99.07     86.11     61.04
  Car/Jeep          240.75    276.46    320.45    328.20    327.76
  Taxi               27.61     39.19     54.22     68.68     88.20
  Bus               165.29    253.63    388.56    539.68    760.15
Del-Freight
  hcv                53.03     66.95     61.80     48.79     36.34
  lcv                33.21     45.52     47.27     42.27     37.40
Cal-Passenger
  2-wh               13.99     14.25     14.42     13.52     12.59
  3-wh               27.77     24.72     20.50     14.03      6.90
  Car/Jeep          138.21    119.65    100.18     69.54     37.33
  Taxi               52.33     50.28     43.99     32.88     19.93
  Bus                21.87     35.79     52.62     68.46     85.91
Cal-Freight
  hcv                 6.77      8.56      9.84      8.12      7.13
  lcv                 3.77      3.69      4.48      5.52      5.95
Bom-Passenger
  2-wh               13.02     23.03     36.85     55.30     79.66
  3-wh               49.59     51.01     50.88     48.46     42.81
  Car/Jeep           53.90     54.95     55.49     55.53     51.78
  Taxi               49.20     63.87     79.89     99.86    123.71
  Bus               166.10    200.87    242.96    293.85    355.42
Bom-Freight
  hcv                10.10     10.44     12.05     13.82     15.75
  lcv                 5.87      8.16     10.06     12.54     15.57
Ban-Passenger
  2-wh               31.30     48.73     54.06     54.92     60.36
  3-wh               15.74     25.39     28.98     30.57     34.60
  Car/Jeep           59.97     83.52     80.54     65.38     42.49
  Taxi                6.55     20.64     37.99     60.50     99.99
  Bus                54.72    107.96    151.74    199.55    287.26
Ban-Freight
  hcv                 5.98      6.90      3.28      2.30      1.35
  lcv                 3.37      6.94      3.55      2.72      1.75
                    ------    ------    ------    ------    ------
TOTAL              1478.88   1842.62   2177.48   2434.70   2810.95
```

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	13.43%	12.33%	10.92%	9.37%	7.65%
4 stroke	0.36%	0.44%	0.56%	0.63%	0.64%
3-wh					
2 stroke	14.24%	12.40%	10.17%	7.58%	4.52%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	10.66%	7.30%	3.52%	0.77%	0.32%
Post 1984 mode	25.05%	24.26%	17.56%	12.06%	7.50%
Cat. convertor	0.00%	0.62%	4.78%	7.40%	8.23%
Diesel	4.25%	4.15%	7.04%	8.65%	8.25%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	2.54%	1.35%	0.96%	0.51%	0.27%
Diesel	2.04%	3.80%	4.61%	5.53%	6.26%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	27.43%	33.34%	39.89%	47.50%	56.35%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	61.49%	59.53%	56.66%	53.58%	49.28%
lcv					
lcv	38.51%	40.47%	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	5.29%	5.50%	5.83%	6.29%	7.09%
4 stroke	0.22%	0.32%	0.39%	0.53%	0.65%
3-wh					
2 stroke	10.93%	10.10%	8.85%	7.07%	4.24%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	23.00%	17.70%	11.83%	6.93%	3.26%
Post 1984 mode	12.00%	13.97%	8.19%	5.42%	2.89%
Cat. convertor	0.00%	0.71%	5.35%	7.03%	6.08%
Diesel	19.38%	16.52%	17.87%	15.66%	10.72%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	11.43%	5.40%	3.27%	1.40%	0.51%
Diesel	9.16%	15.15%	15.72%	15.17%	11.74%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	8.60%	14.63%	22.71%	34.50%	52.81%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	64.21%	69.85%	68.72%	59.54%	54.51%
lcv					
lcv	35.79%	30.15%	31.28%	40.46%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	3.75%	5.27%	7.01%	8.71%	10.43%
4 stroke	0.18%	0.58%	0.90%	1.29%	1.76%
3-wh					
2 stroke	14.94%	12.96%	10.92%	8.76%	6.55%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	8.19%	4.77%	3.32%	2.32%	1.12%
Post 1984 mode	3.90%	4.23%	2.85%	1.54%	1.12%
Cat. Convertor	0.00%	0.20%	1.32%	1.85%	1.91%
Diesel	4.15%	4.75%	4.42%	4.33%	3.78%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	8.23%	4.26%	2.95%	1.53%	0.79%
Diesel	6.60%	11.96%	14.19%	16.53%	18.14%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	50.06%	51.02%	52.13%	53.14%	54.40%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	63.26%	56.12%	54.51%	52.43%	50.29%
lcv					
lcv	36.74%	43.88%	45.49%	47.57%	49.71%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

Ban-Passenger	1991	1996	2001	2006	2011
2-wh					
2 stroke	17.79%	15.08%	12.73%	10.14%	8.14%
4 stroke	0.82%	1.94%	2.57%	3.22%	3.37%
3-wh					
2 stroke	9.35%	8.87%	8.20%	7.44%	6.59%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	13.60%	6.88%	4.31%	2.60%	1.03%
Post 1984 mode	11.27%	11.66%	9.30%	6.18%	3.06%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	10.76%	10.64%	9.18%	7.13%	4.01%
Taxi					
Petrol	2.16%	1.90%	1.85%	1.25%	0.80%
Diesel	1.73%	5.32%	8.90%	13.48%	18.26%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	32.52%	37.71%	42.95%	48.56%	54.75%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

Ban-Freight	1991	1996	2001	2006	2011
hcv					
hcv	63.96%	49.85%	48.08%	45.83%	43.52%
lcv					
lcv	36.04%	50.15%	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: FUEL BY SECTOR, 1991
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	399.35	0.00	159.78	0.00	130.06	0.00	92.54	0.00	781.72
DIESEL/GAS OIL	203.16	86.23	94.41	10.54	201.75	15.97	75.74	9.35	697.16
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	602.51	86.23	254.18	10.54	331.81	15.97	168.28	9.35	1478.88

ENERGY DEMAND: FUEL BY SECTOR, 1996
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	446.68	0.00	131.41	0.00	127.07	0.00	132.62	0.00	837.78
DIESEL/GAS OIL	314.11	112.47	113.27	12.25	266.67	18.60	153.62	13.84	1004.84
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	760.79	112.47	244.68	12.25	393.73	18.60	286.25	13.84	1842.62

ENERGY DEMAND: FUEL BY SECTOR, 2001
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	472.03	0.00	101.27	0.00	136.37	0.00	137.67	0.00	847.34
DIESEL/GAS OIL	502.03	109.07	130.44	14.32	329.70	22.11	215.64	6.83	1330.14
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	974.05	109.07	231.71	14.32	466.07	22.11	353.31	6.83	2177.48

ENERGY DEMAND: FUEL BY SECTOR, 2006
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	435.47	0.00	68.81	0.00	143.79	0.00	126.67	0.00	774.74
DIESEL/GAS OIL	700.81	91.06	129.62	13.64	409.20	26.36	284.25	5.02	1659.96
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1136.28	91.06	198.43	13.64	553.00	26.36	410.92	5.02	2434.70

ENERGY DEMAND: FUEL BY SECTOR, 2011
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	393.05	0.00	40.22	0.00	154.73	0.00	120.62	0.00	708.62
DIESEL/GAS OIL	955.89	73.74	122.45	13.09	498.66	31.32	404.07	3.11	2102.33
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1348.94	73.74	162.67	13.09	653.38	31.32	524.70	3.11	2810.95

Annexure 5.9

AREA: SAREC
SCENARIOS: S1BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	132.31	147.99	155.94	146.31	141.25
Del-Freight	6.37	8.27	7.96	6.59	5.28
Cal-Passenger	54.55	44.11	33.80	23.88	16.67
Cal-Freight	0.78	0.92	1.08	1.00	0.95
Bom-Passenger	52.88	54.50	61.24	69.33	80.28
Bom-Freight	1.19	1.36	1.60	1.90	2.25
Ban-Passenger	36.32	53.74	59.31	60.26	65.94
Ban-Freight	0.70	0.99	0.49	0.36	0.22
TOTAL	285.10	311.89	321.41	309.64	312.84

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	53.79	60.19	64.45	60.33	54.81
Del-Freight	0.97	1.25	1.19	0.98	0.77
Cal-Passenger	17.70	14.96	12.24	9.06	6.40
Cal-Freight	0.12	0.14	0.17	0.15	0.14
Bom-Passenger	19.88	21.81	25.33	29.46	34.47
Bom-Freight	0.18	0.20	0.24	0.28	0.33
Ban-Passenger	15.38	22.39	24.02	23.37	24.83
Ban-Freight	0.11	0.15	0.07	0.05	0.03
TOTAL	108.13	121.09	127.70	123.69	121.80

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
(THOUSAND KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	78.48	86.86	83.62	69.06	55.42
Del-Freight	0.00	0.00	0.00	0.00	0.00
Cal-Passenger	31.40	25.49	17.47	10.78	5.96
Cal-Freight	0.00	0.00	0.00	0.00	0.00
Bom-Passenger	25.56	24.82	25.59	26.25	27.96
Bom-Freight	0.00	0.00	0.00	0.00	0.00
Ban-Passenger	18.19	26.06	27.06	24.89	23.71
Ban-Freight	0.00	0.00	0.00	0.00	0.00
TOTAL	153.63	163.22	153.73	130.98	113.05

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	22.49	30.80	41.75	52.80	69.70
Del-Freight	10.73	13.93	13.42	11.13	8.93
Cal-Passenger	6.95	7.25	7.46	7.58	7.99
Cal-Freight	1.32	1.55	1.81	1.69	1.60
Bom-Passenger	16.28	19.10	22.63	26.90	32.15
Bom-Freight	1.99	2.29	2.71	3.21	3.80
Ban-Passenger	6.49	11.80	15.56	19.34	26.43
Ban-Freight	1.17	1.68	0.82	0.60	0.37
TOTAL	67.43	88.39	106.17	123.26	150.98

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	3.03	4.22	6.08	7.87	10.18
Del-Freight	0.82	1.07	1.04	0.87	0.70
Cal-Passenger	1.34	1.44	1.52	1.42	1.28
Cal-Freight	0.10	0.12	0.14	0.13	0.12
Bom-Passenger	2.28	2.89	3.51	4.29	5.17
Bom-Freight	0.15	0.18	0.21	0.25	0.30
Ban-Passenger	0.98	1.83	2.43	3.05	4.18
Ban-Freight	0.09	0.13	0.07	0.05	0.03
TOTAL	8.79	11.87	15.00	17.94	21.97

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1991	1996	2001	2006	2011
Del-Passenger	6.03	7.45	9.15	10.22	11.53
Del-Freight	1.02	1.33	1.28	1.06	0.85
Cal-Passenger	1.88	1.87	1.80	1.59	1.37
Cal-Freight	0.13	0.15	0.17	0.16	0.15
Bom-Passenger	2.79	3.46	4.23	5.18	6.32
Bom-Freight	0.19	0.22	0.26	0.31	0.36
Ban-Passenger	1.83	2.99	3.55	3.93	4.84
Ban-Freight	0.11	0.16	0.08	0.06	0.04
TOTAL	13.98	17.62	20.52	22.51	25.47

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	29.56%	30.65%	32.97%	35.19%	35.32%
4 stroke	1.15%	1.59%	2.45%	3.44%	4.32%
3-wh					
2 stroke	21.24%	20.89%	20.81%	19.28%	14.15%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	17.37%	13.42%	7.87%	2.15%	1.10%
Post 1984 model	20.17%	22.06%	19.40%	16.57%	12.66%
Cat. convertor	0.00%	0.16%	1.51%	2.90%	3.97%
Diesel	0.22%	0.24%	0.49%	0.75%	0.89%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	4.14%	2.49%	2.14%	1.42%	0.94%
Diesel	0.10%	0.22%	0.32%	0.48%	0.67%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	6.03%	8.28%	12.03%	17.82%	25.99%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	67.62%	65.80%	63.10%	60.15%	55.96%
lcv					
lcv	32.38%	34.20%	36.90%	39.85%	44.04%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	11.91%	14.75%	19.34%	25.27%	33.43%
4 stroke	0.72%	1.27%	1.89%	3.09%	4.51%
3-wh					
2 stroke	16.68%	18.35%	19.87%	19.24%	13.55%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	38.33%	35.12%	29.00%	20.60%	11.38%
Post 1984 model	9.89%	13.71%	9.93%	7.97%	4.99%
Cat. convertor	0.00%	0.20%	1.85%	2.95%	2.99%
Diesel	1.01%	1.03%	1.38%	1.46%	1.18%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	19.05%	10.71%	8.01%	4.17%	1.79%
Diesel	0.48%	0.94%	1.21%	1.42%	1.29%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	1.94%	3.92%	7.52%	13.84%	24.89%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	70.12%	75.19%	74.18%	65.81%	61.05%
lcv					
lcv	29.88%	24.81%	25.82%	34.19%	38.95%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	11.37%	18.40%	25.78%	33.58%	41.04%
4 stroke	0.79%	2.96%	4.86%	7.29%	10.14%
3-wh					
2 stroke	30.72%	30.66%	27.21%	22.89%	17.47%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	18.39%	12.33%	9.03%	6.62%	3.26%
Post 1984 model	4.33%	5.40%	3.83%	2.18%	1.61%
Cat. Convertor	0.00%	0.07%	0.51%	0.75%	0.78%
Diesel	0.29%	0.39%	0.38%	0.39%	0.35%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	18.47%	11.02%	8.03%	4.36%	2.31%
Diesel	0.47%	0.97%	1.21%	1.48%	1.66%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	15.17%	17.80%	19.16%	20.47%	21.38%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	69.25%	62.59%	61.05%	59.05%	56.96%
lcv					
lcv	30.75%	37.41%	38.95%	40.95%	43.04%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	39.84%	38.84%	36.67%	33.43%	31.30%
4 stroke	2.68%	7.32%	10.83%	15.55%	18.97%
3-wh					
2 stroke	14.20%	15.48%	16.01%	16.61%	17.19%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	22.54%	13.11%	9.18%	6.34%	2.94%
Post 1984 model	9.24%	10.99%	9.80%	7.45%	4.31%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.56%	0.64%	0.61%	0.55%	0.36%
Taxi					
Petrol	3.58%	3.61%	3.94%	3.04%	2.27%
Diesel	0.09%	0.32%	0.60%	1.03%	1.63%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	7.28%	9.70%	12.36%	15.99%	21.04%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	69.89%	56.53%	54.78%	52.53%	50.19%
lcv					
lcv	30.11%	43.47%	45.22%	47.47%	49.81%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	45.32%	46.97%	49.73%	53.19%	56.73%
4 stroke	0.25%	0.34%	0.51%	0.72%	0.96%
3-wh					
2 stroke	32.61%	32.05%	31.42%	29.17%	22.76%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	9.16%	7.07%	4.08%	1.11%	0.61%
Post 1984 model	7.83%	8.56%	7.41%	6.34%	5.15%
Cat. convertor	0.00%	0.05%	0.42%	0.81%	1.18%
Diesel	0.14%	0.15%	0.30%	0.47%	0.58%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	2.18%	1.31%	1.11%	0.74%	0.52%
Diesel	0.07%	0.14%	0.20%	0.30%	0.44%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	2.45%	3.37%	4.82%	7.15%	11.08%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	73.90%	72.28%	69.86%	67.17%	63.26%
lcv					
lcv	26.10%	27.72%	30.14%	32.83%	36.74%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	22.87%	27.11%	33.27%	41.50%	54.29%
4 stroke	0.19%	0.32%	0.45%	0.71%	1.02%
3-wh					
2 stroke	32.07%	33.77%	34.22%	31.64%	22.03%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	25.32%	22.19%	17.15%	11.63%	6.35%
Post 1984 model	4.81%	6.38%	4.32%	3.31%	2.05%
Cat. convertor	0.00%	0.07%	0.59%	0.90%	0.90%
Diesel	0.80%	0.77%	0.97%	0.98%	0.78%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	12.58%	6.77%	4.74%	2.35%	1.00%
Diesel	0.38%	0.71%	0.85%	0.95%	0.85%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.99%	1.91%	3.43%	6.03%	10.72%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	76.08%	80.42%	79.57%	72.29%	68.00%
lcv					
lcv	23.92%	19.58%	20.43%	27.71%	32.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	18.84%	28.67%	38.85%	49.26%	59.57%
4 stroke	0.18%	0.64%	1.02%	1.49%	2.05%
3-wh					
2 stroke	50.97%	47.81%	41.05%	33.62%	25.38%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	10.48%	6.61%	4.68%	3.34%	1.63%
Post 1984 model	1.82%	2.13%	1.46%	0.81%	0.59%
Cat. Convertor	0.00%	0.02%	0.14%	0.20%	0.21%
Diesel	0.20%	0.25%	0.23%	0.23%	0.20%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	10.53%	5.90%	4.16%	2.20%	1.15%
Diesel	0.31%	0.62%	0.75%	0.89%	0.98%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	6.67%	7.36%	7.66%	7.97%	8.24%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	75.32%	69.39%	68.00%	66.15%	64.20%
lcv					
lcv	24.68%	30.61%	32.00%	33.85%	35.80%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	58.64%	58.11%	56.45%	53.72%	51.80%
4 stroke	0.55%	1.52%	2.32%	3.48%	4.36%
3-wh					
2 stroke	20.92%	23.18%	24.67%	26.73%	28.48%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	11.41%	6.74%	4.86%	3.51%	1.67%
Post 1984 model	3.44%	4.16%	3.82%	3.03%	1.80%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.34%	0.39%	0.39%	0.36%	0.24%
Taxi					
Petrol	1.81%	1.86%	2.09%	1.68%	1.29%
Diesel	0.05%	0.19%	0.37%	0.68%	1.10%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	2.84%	3.85%	5.05%	6.82%	9.24%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	75.88%	63.80%	62.15%	60.00%	57.73%
lcv					
lcv	24.12%	36.20%	37.85%	40.00%	42.27%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	20.26%	21.23%	25.00%	30.31%	36.59%
4 stroke	0.54%	0.75%	1.27%	2.03%	3.06%
3-wh					
2 stroke	21.49%	21.35%	23.28%	24.50%	21.64%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	16.09%	12.57%	8.06%	2.50%	1.54%
Post 1984 model	37.79%	41.77%	40.19%	39.01%	35.86%
Cat. convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.84%	2.33%	2.19%	1.65%	1.31%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	8.41%	10.38%	15.21%	22.75%	38.01%
4 stroke	0.35%	0.61%	1.02%	1.90%	3.50%
3-wh					
2 stroke	17.38%	19.06%	23.06%	25.58%	22.74%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	36.59%	33.40%	30.84%	25.08%	17.49%
Post 1984 model	19.09%	26.36%	21.35%	19.61%	15.50%
Cat. convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	18.18%	10.19%	8.52%	5.07%	2.76%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	9.56%	16.43%	25.08%	36.06%	47.90%
4 stroke	0.46%	1.81%	3.23%	5.35%	8.09%
3-wh					
2 stroke	38.13%	40.40%	39.07%	36.28%	30.09%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	20.90%	14.88%	11.87%	9.60%	5.14%
Post 1984 model	9.96%	13.19%	10.19%	6.38%	5.13%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	21.00%	13.29%	10.56%	6.33%	3.65%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	32.34%	32.56%	32.68%	32.90%	35.39%
4 stroke	1.48%	4.19%	6.59%	10.46%	14.65%
3-wh					
2 stroke	17.01%	19.15%	21.05%	24.13%	28.68%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	24.74%	14.85%	11.05%	8.44%	4.49%
Post 1984 model	20.50%	25.17%	23.88%	20.03%	13.31%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.93%	4.09%	4.75%	4.04%	3.48%
Diesel	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	0.00%	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	2.09%	1.77%	1.48%	1.17%	0.86%
4 stroke	0.32%	0.36%	0.43%	0.45%	0.41%
3-wh					
2 stroke	1.02%	0.82%	0.63%	0.44%	0.23%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	9.54%	6.03%	2.74%	0.56%	0.21%
Post 1984 model	23.64%	21.13%	14.44%	9.15%	5.11%
Cat. convertor	0.00%	0.18%	1.30%	1.85%	1.85%
Diesel	1.63%	1.47%	2.35%	2.66%	2.28%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	2.28%	1.12%	0.75%	0.37%	0.18%
Diesel	0.78%	1.34%	1.54%	1.70%	1.73%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	58.70%	65.79%	74.34%	81.65%	87.13%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	66.67%	64.82%	62.09%	59.11%	54.89%
lcv					
lcv	33.33%	35.18%	37.91%	40.89%	45.11%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	1.12%	1.08%	1.05%	0.96%	0.84%
4 stroke	0.27%	0.36%	0.40%	0.46%	0.44%
3-wh					
2 stroke	1.07%	0.91%	0.73%	0.49%	0.23%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	28.09%	19.96%	12.27%	6.06%	2.22%
Post 1984 model	15.46%	16.62%	8.96%	5.00%	2.07%
Cat. convertor	0.00%	0.28%	1.93%	2.14%	1.44%
Diesel	10.12%	7.97%	7.93%	5.86%	3.12%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	13.96%	6.09%	3.39%	1.23%	0.35%
Diesel	4.79%	7.31%	6.98%	5.67%	3.42%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	25.13%	39.43%	56.34%	72.13%	85.87%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	69.20%	74.37%	73.34%	64.83%	60.02%
lcv					
lcv	30.80%	25.63%	26.66%	35.17%	39.98%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	0.44%	0.63%	0.84%	1.04%	1.23%
4 stroke	0.12%	0.40%	0.62%	0.88%	1.19%
3-wh					
2 stroke	0.81%	0.71%	0.60%	0.48%	0.36%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	5.58%	3.29%	2.28%	1.59%	0.76%
Post 1984 model	2.80%	3.07%	2.07%	1.12%	0.80%
Cat. Convertor	0.00%	0.05%	0.32%	0.44%	0.45%
Diesel	1.21%	1.40%	1.30%	1.27%	1.10%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	5.60%	2.94%	2.03%	1.05%	0.54%
Diesel	1.92%	3.52%	4.18%	4.86%	5.27%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	81.50%	83.99%	85.77%	87.26%	88.30%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	68.32%	61.57%	60.02%	58.00%	55.89%
lcv					
lcv	31.68%	38.43%	39.98%	42.00%	44.11%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

Ban-Passenger	1991	1996	2001	2006	2011
2-wh					
2 stroke	2.68%	2.13%	1.68%	1.25%	0.94%
4 stroke	0.70%	1.57%	1.94%	2.28%	2.23%
3-wh					
2 stroke	0.65%	0.58%	0.50%	0.42%	0.35%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	11.79%	5.58%	3.27%	1.85%	0.69%
Post 1984 model	10.31%	9.97%	7.44%	4.62%	2.14%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	3.99%	3.69%	2.98%	2.17%	1.14%
Taxi					
Petrol	1.87%	1.54%	1.40%	0.88%	0.53%
Diesel	0.64%	1.84%	2.89%	4.09%	5.18%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	67.37%	73.11%	77.90%	82.43%	86.81%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

Ban-Freight	1991	1996	2001	2006	2011
hcv					
hcv	68.98%	55.46%	53.71%	51.45%	49.11%
lcv					
lcv	31.02%	44.54%	46.29%	48.55%	50.89%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	7.34%	6.12%	4.81%	3.72%	2.79%
4 stroke	0.20%	0.22%	0.24%	0.25%	0.23%
3-wh					
2 stroke	7.78%	6.15%	4.48%	3.01%	1.65%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	5.83%	3.62%	1.55%	0.31%	0.12%
Post 1984 model	13.69%	12.04%	7.74%	4.79%	2.73%
Cat. convertor	0.00%	0.31%	2.11%	2.94%	3.00%
Diesel	8.03%	7.13%	10.74%	11.89%	10.40%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	1.39%	0.67%	0.42%	0.20%	0.10%
Diesel	3.86%	6.52%	7.03%	7.60%	7.90%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	51.89%	57.23%	60.86%	65.28%	71.08%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	61.49%	59.53%	56.66%	53.58%	49.28%
lcv					
lcv	38.51%	40.47%	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	2.76%	2.57%	2.45%	2.41%	2.49%
4 stroke	0.11%	0.15%	0.16%	0.20%	0.23%
3-wh					
2 stroke	5.71%	4.72%	3.71%	2.71%	1.49%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	12.02%	8.28%	4.96%	2.66%	1.14%
Post 1984 model	6.27%	6.53%	3.43%	2.08%	1.01%
Cat. convertor	0.00%	0.33%	2.24%	2.70%	2.13%
Diesel	35.03%	26.72%	25.92%	20.78%	13.01%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	5.97%	2.52%	1.37%	0.54%	0.18%
Diesel	16.56%	24.51%	22.80%	20.13%	14.24%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	15.56%	23.66%	32.95%	45.79%	64.08%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	64.21%	69.85%	68.72%	59.54%	54.51%
lcv					
lcv	35.79%	30.15%	31.28%	40.46%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	1.50%	1.98%	2.56%	3.09%	3.62%
4 stroke	0.07%	0.22%	0.33%	0.46%	0.61%
3-wh					
2 stroke	5.99%	4.86%	3.98%	3.11%	2.28%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	3.28%	1.79%	1.21%	0.82%	0.39%
Post 1984 model	1.56%	1.59%	1.04%	0.55%	0.39%
Cat. Convertor	0.00%	0.08%	0.48%	0.66%	0.66%
Diesel	5.75%	6.17%	5.58%	5.31%	4.55%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.30%	1.60%	1.08%	0.54%	0.28%
Diesel	9.15%	15.52%	17.92%	20.28%	21.81%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	69.40%	66.21%	65.82%	65.19%	65.41%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	63.26%	56.12%	54.51%	52.43%	50.29%
lcv					
lcv	36.74%	43.88%	45.49%	47.57%	49.71%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE

ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	8.44%	6.50%	5.09%	3.75%	2.81%
4 stroke	0.39%	0.84%	1.03%	1.19%	1.16%
3-wh					
2 stroke	4.44%	3.82%	3.28%	2.75%	2.28%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	6.45%	2.96%	1.72%	0.96%	0.36%
Post 1984 model	5.35%	5.02%	3.72%	2.29%	1.06%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	17.67%	15.86%	12.70%	9.14%	4.79%
Taxi					
Petrol	1.02%	0.82%	0.74%	0.46%	0.28%
Diesel	2.84%	7.93%	12.31%	17.26%	21.82%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	53.40%	56.24%	59.41%	62.19%	65.45%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE

ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	63.96%	49.85%	48.08%	45.83%	43.52%
lcv					
lcv	36.04%	50.15%	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	39.02%	36.64%	33.80%	30.32%	26.02%
4 stroke	0.24%	0.31%	0.40%	0.47%	0.51%
3-wh					
2 stroke	19.02%	16.93%	14.47%	11.26%	7.07%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	4.34%	3.04%	1.53%	0.35%	0.15%
Post 1984 model	11.64%	11.53%	8.69%	6.24%	4.08%
Cat. convertor	0.00%	0.10%	0.79%	1.27%	1.49%
Diesel	2.60%	2.60%	4.60%	5.90%	5.91%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	1.04%	0.56%	0.42%	0.23%	0.13%
Diesel	1.25%	2.38%	3.01%	3.77%	4.49%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	20.85%	25.91%	32.30%	40.18%	50.14%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	66.32%	64.46%	61.72%	58.74%	54.51%
lcv					
lcv	33.68%	35.54%	38.28%	41.26%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	20.84%	20.97%	21.84%	22.80%	24.40%
4 stroke	0.20%	0.29%	0.34%	0.45%	0.53%
3-wh					
2 stroke	19.79%	17.70%	15.21%	11.78%	6.71%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	12.70%	9.45%	6.20%	3.52%	1.57%
Post 1984 model	7.56%	8.52%	4.90%	3.14%	1.59%
Cat. convertor	0.00%	0.14%	1.06%	1.35%	1.11%
Diesel	16.11%	13.28%	14.10%	11.96%	7.78%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	6.31%	2.88%	1.71%	0.71%	0.25%
Diesel	7.61%	12.18%	12.40%	11.59%	8.52%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	8.87%	14.59%	22.23%	32.70%	47.55%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	68.87%	74.07%	73.04%	64.48%	59.65%
lcv					
lcv	31.13%	25.93%	26.96%	35.52%	40.35%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	12.95%	17.46%	22.46%	27.03%	31.37%
4 stroke	0.14%	0.45%	0.68%	0.94%	1.24%
3-wh					
2 stroke	23.73%	19.73%	16.08%	12.50%	9.05%
Propane	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	3.97%	2.22%	1.49%	1.01%	0.47%
Post 1984 model	2.16%	2.24%	1.46%	0.77%	0.54%
Cat. Convertor	0.00%	0.04%	0.23%	0.31%	0.30%
Diesel	3.02%	3.32%	2.99%	2.83%	2.40%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Taxi					
Petrol	3.98%	1.98%	1.33%	0.66%	0.33%
Diesel	4.81%	8.36%	9.59%	10.82%	11.50%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	45.24%	44.22%	43.71%	43.14%	42.79%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	67.99%	61.20%	59.65%	57.62%	55.51%
lcv					
lcv	32.01%	38.80%	40.35%	42.38%	44.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	47.52%	41.97%	36.90%	30.83%	25.65%
4 stroke	0.51%	1.27%	1.74%	2.30%	2.49%
3-wh					
2 stroke	11.48%	11.34%	10.92%	10.39%	9.55%
Propone	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
Car/Jeep					
Pre 1984 model	5.09%	2.68%	1.75%	1.11%	0.46%
Post 1984 model	4.82%	5.19%	4.31%	3.00%	1.54%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%	0.00%
Diesel	6.06%	6.24%	5.61%	4.57%	2.66%
Taxi					
Petrol	0.81%	0.74%	0.75%	0.53%	0.35%
Diesel	0.97%	3.12%	5.44%	8.64%	12.14%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	22.73%	27.45%	32.56%	38.62%	45.15%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	68.64%	55.08%	53.32%	51.07%	48.72%
lcv					
lcv	31.36%	44.92%	46.68%	48.93%	51.28%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

Annexure 5.10

26/06/97, 17:59:44
AREA: SAREC
SCENARIO: S2 - CLEAN TECHNOLOGY

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
(THOUSAND TONNES OIL EQ)

	1991	1996	2001	2006	2011
Del-Passenger	602.51	804.27	1048.64	1249.62	1488.52
Del-Freight	86.23	112.47	109.07	91.06	73.74
Cal-Passenger	254.18	259.31	291.00	299.96	308.29
Cal-Freight	10.54	12.25	14.32	13.64	13.09
Bom-Passenger	331.81	402.05	472.95	555.91	652.92
Bom-Freight	15.97	18.60	22.11	26.36	31.32
Ban-Passenger	168.28	269.41	351.36	446.82	605.31
Ban-Freight	9.35	13.84	6.83	5.02	3.11
TOTAL	1478.88	1892.21	2316.28	2688.39	3176.30

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
(THOUSAND TONNES OIL EQ)

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh	83.06	114.20	126.48	117.30	112.26
3-wh	85.81	112.90	140.10	140.58	140.85
Car/Jeep	240.75	328.21	426.30	518.02	589.95
Taxi	27.61	24.55	30.10	36.61	39.12
Bus	165.29	224.41	325.67	437.12	606.35
Del-Freight					
hcv	53.03	66.95	61.80	48.79	36.34
lcv	33.21	45.52	47.27	42.27	37.40
Cal-Passenger					
2-wh	13.99	18.70	18.22	17.12	16.42
3-wh	27.77	41.67	57.06	58.26	59.17
Car/Jeep	138.21	120.88	124.82	127.11	128.61
Taxi	52.33	50.49	63.66	70.56	77.55
Bus	21.87	27.58	27.24	26.90	26.54
Cal-Freight					
hcv	6.77	8.56	9.84	8.12	7.13
lcv	3.77	3.69	4.48	5.52	5.95
Bom-Passenger					
2-wh	13.02	15.36	17.81	20.61	23.81
3-wh	49.59	59.94	69.74	81.02	93.97
Car/Jeep	53.90	63.18	71.19	79.79	88.89
Taxi	49.20	62.81	74.55	88.44	104.89
Bus	166.10	200.77	239.67	286.05	341.37
Bom-Freight					
hcv	10.10	10.44	12.05	13.82	15.75
lcv	5.87	8.16	10.06	12.54	15.57
Ban-Passenger					
2-wh	31.30	41.95	47.97	44.24	43.58
3-wh	15.74	40.27	77.96	146.63	257.22
Car/Jeep	59.97	67.04	73.91	79.66	77.46
Taxi	6.55	6.92	10.68	15.91	22.00
Bus	54.72	113.24	140.84	160.37	205.05
Ban-Freight					
hcv	5.98	6.90	3.28	2.30	1.35
lcv	3.37	6.94	3.55	2.72	1.75
TOTAL	1478.88	1892.21	2316.28	2688.39	3176.30

SCENARIO: S2 - CLEAN TECHNOLOGY

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	13.43%	13.71%	10.32%	6.88%	4.50%
4 stroke	0.36%	0.49%	1.74%	2.50%	3.04%
3-wh					
2 stroke	14.24%	14.04%	12.72%	10.13%	8.00%
Propane	0.00%	0.00%	0.52%	0.91%	1.20%
BOV	0.00%	0.00%	0.12%	0.20%	0.27%
Car/Jeep					
Pre 1984 model	10.66%	8.20%	5.70%	3.15%	0.29%
Post 1984 mode	25.05%	27.25%	20.82%	14.37%	6.77%
Cat. convertor	0.00%	0.70%	6.93%	13.81%	20.07%
Diesel	4.25%	4.66%	6.18%	7.97%	9.31%
CNG	0.00%	0.00%	0.93%	1.96%	2.90%
BOV	0.00%	0.00%	0.09%	0.20%	0.29%
Taxi					
Petrol	2.54%	0.80%	0.55%	0.36%	0.12%
Diesel	2.04%	2.25%	2.16%	2.24%	2.05%
CNG	0.00%	0.00%	0.16%	0.33%	0.46%
Bus					
Bus	27.43%	27.90%	29.35%	31.09%	33.86%
CNG	0.00%	0.00%	1.57%	3.59%	6.35%
BOV	0.00%	0.00%	0.13%	0.30%	0.53%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

SCENARIO: S2 - CLEAN TECHNOLOGY

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	61.49%	59.53%	56.66%	53.58%	49.28%
lcv					
lcv	38.51%	40.47%	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

```
                    26/06/97, 18:01:33
                       AREA: SAREC
              SCENARIO: S2 - CLEAN TECHNOLOGY

        ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
                          PERCENT SHARE

                        1991      1996      2001      2006      2011
                        ----      ----      ----      ----      ----
Cal-Passenger

2-wh
  2 stroke             5.29%     6.81%     5.26%     4.14%     3.18%
  4 stroke             0.22%     0.40%     1.00%     1.57%     2.15%

3-wh
  2 stroke            10.93%    16.07%    18.68%    17.50%    16.22%
  Propane              0.00%     0.00%     0.76%     1.57%     2.43%
  BOV                  0.00%     0.00%     0.17%     0.35%     0.54%

Car/Jeep
  Pre 1984 model      23.00%    16.87%    12.11%     8.08%     3.51%
  Post 1984 mode      12.00%    13.32%     9.66%     6.59%     3.11%
  Cat. convertor       0.00%     0.67%     7.95%    16.18%    25.43%
  Diesel              19.38%    15.75%    13.09%    11.35%     9.37%
  CNG                  0.00%     0.00%     0.00%     0.00%     0.00%
  BOV                  0.00%     0.00%     0.09%     0.18%     0.29%

Taxi
  Petrol              11.43%     5.12%     4.09%     2.67%     1.05%
  Diesel               9.16%    14.35%    17.79%    20.86%    24.10%
  CNG                  0.00%     0.00%     0.00%     0.00%     0.00%

Bus
  Bus                  8.60%    10.63%     9.32%     8.89%     8.50%
  CNG                  0.00%     0.00%     0.00%     0.00%     0.00%
  BOV                  0.00%     0.00%     0.04%     0.08%     0.11%
                      ------    ------    ------    ------    ------
TOTAL                100.00%   100.00%   100.00%   100.00%   100.00%
```

```
                    26/06/97, 18:01:50
                       AREA: SAREC
              SCENARIO: S2 - CLEAN TECHNOLOGY

        ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
                          PERCENT SHARE

                        1991      1996      2001      2006      2011
                        ----      ----      ----      ----      ----
Cal-Freight

hcv
  hcv                 64.21%    69.85%    68.72%    59.54%    54.51%

lcv
  lcv                 35.79%    30.15%    31.28%    40.46%    45.49%
                      ------    ------    ------    ------    ------
TOTAL                100.00%   100.00%   100.00%   100.00%   100.00%
```

```
                       26/06/97, 18:02:11
                          AREA: SAREC
                SCENARIO: S2 - CLEAN TECHNOLOGY

     ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
                         PERCENT SHARE

                      1991       1996       2001       2006       2011
                      ----       ----       ----       ----       ----
Bom-Passenger

2-wh
  2 stroke           3.75%      3.44%      3.04%      2.62%      2.18%
  4 stroke           0.18%      0.38%      0.72%      1.09%      1.47%

3-wh
  2 stroke          14.94%     14.91%     14.04%     13.13%     12.16%
  Propane            0.00%      0.00%      0.57%      1.18%      1.82%
  BOV                0.00%      0.00%      0.13%      0.26%      0.41%

Car/Jeep
  Pre 1984 model     8.19%      5.37%      4.05%      2.65%      1.17%
  Post 1984 mode     3.90%      4.76%      3.63%      2.43%      1.17%
  Cat. Convertor     0.00%      0.23%      2.39%      4.68%      7.09%
  Diesel             4.15%      5.35%      4.65%      3.90%      3.12%
  CNG                0.00%      0.00%      0.31%      0.63%      0.97%
  BOV                0.00%      0.00%      0.03%      0.06%      0.10%

Taxi
  Petrol             8.23%      4.11%      3.05%      1.93%      0.74%
  Diesel             6.60%     11.52%     11.84%     12.17%     12.53%
  CNG                0.00%      0.00%      0.88%      1.81%      2.79%

Bus
  Bus               50.06%     49.94%     47.90%     45.74%     43.46%
  CNG                0.00%      0.00%      2.57%      5.28%      8.15%
  BOV                0.00%      0.00%      0.21%      0.44%      0.68%
                    ------     ------     ------     ------     ------
TOTAL              100.00%    100.00%    100.00%    100.00%    100.00%
```

```
                       26/06/97, 18:02:30
                          AREA: SAREC
                SCENARIO: S2 - CLEAN TECHNOLOGY

     ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
                         PERCENT SHARE

                      1991       1996       2001       2006       2011
                      ----       ----       ----       ----       ----
Bom-Freight

hcv
  hcv               63.26%     56.12%     54.51%     52.43%     50.29%

lcv
  lcv               36.74%     43.88%     45.49%     47.57%     49.71%
                    ------     ------     ------     ------     ------
TOTAL              100.00%    100.00%    100.00%    100.00%    100.00%
```

26/06/97, 18:03:21
AREA: SAREC
SCENARIO: S2 - CLEAN TECHNOLOGY

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	17.79%	13.79%	10.89%	6.94%	4.30%
4 stroke	0.82%	1.78%	2.77%	2.96%	2.90%
3-wh					
2 stroke	9.35%	14.95%	21.13%	29.56%	35.91%
Propone	0.00%	0.00%	0.86%	2.66%	5.39%
BOV	0.00%	0.00%	0.19%	0.59%	1.20%
Car/Jeep					
Pre 1984 model	13.60%	5.87%	3.97%	2.42%	0.98%
Post 1984 mode	11.27%	9.94%	7.36%	5.25%	2.97%
Cat. Convertor	0.00%	0.00%	2.88%	5.17%	5.90%
Diesel	10.76%	9.07%	6.79%	4.92%	2.86%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.04%	0.08%	0.09%
Taxi					
Petrol	2.16%	0.67%	0.57%	0.40%	0.15%
Diesel	1.73%	1.89%	2.47%	3.16%	3.48%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	32.52%	42.03%	39.92%	35.59%	33.44%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.17%	0.31%	0.44%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

26/06/97, 18:03:45
AREA: SAREC
SCENARIO: S2 - CLEAN TECHNOLOGY

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	63.96%	49.85%	48.08%	45.83%	43.52%
lcv					
lcv	36.04%	50.15%	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

```
                         26/06/97, 18:04:34
                               AREA: SAREC
                     SCENARIO: S2 - CLEAN TECHNOLOGY

                    ENERGY DEMAND: FUEL BY SECTOR, 1991
                        (THOUSAND TONNES OIL EQ)
                  Del-Passe  Del-Freig  Cal-Passe  Cal-Freig  Bom-Passe  Bom-Freig  Ban-Passe  Ban-Freig      TOTAL
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
ELECTRICITY            0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00
NATURAL GAS            0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00
GASOLINE             399.35       0.00     159.78       0.00     130.06       0.00      92.54       0.00     781.72
DIESEL/GAS OIL       203.16      86.23      94.41      10.54     201.75      15.97      75.74       9.35     697.16
LPG/BOTTLED GAS        0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
TOTAL                602.51      86.23     254.18      10.54     331.81      15.97     168.28       9.35    1478.88

                    ENERGY DEMAND: FUEL BY SECTOR, 1996
                        (THOUSAND TONNES OIL EQ)

                  Del-Passe  Del-Freig  Cal-Passe  Cal-Freig  Bom-Passe  Bom-Freig  Ban-Passe  Ban-Freig      TOTAL
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
ELECTRICITY            0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00
NATURAL GAS            0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00
GASOLINE             524.25       0.00     153.68       0.00     133.47       0.00     126.63       0.00     938.04
DIESEL/GAS OIL       280.02     112.47     105.63      12.25     268.58      18.60     142.78      13.84     954.17
LPG/BOTTLED GAS        0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
TOTAL                804.27     112.47     259.31      12.25     402.05      18.60     269.41      13.84    1892.21

                    ENERGY DEMAND: FUEL BY SECTOR, 2001
                        (THOUSAND TONNES OIL EQ)

                  Del-Passe  Del-Freig  Cal-Passe  Cal-Freig  Bom-Passe  Bom-Freig  Ban-Passe  Ban-Freig      TOTAL
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
ELECTRICITY            3.56       0.00       0.86       0.00       1.76       0.00       1.42       0.00       7.61
NATURAL GAS           27.94       0.00       0.00       0.00      17.74       0.00       0.00       0.00      45.68
GASOLINE             616.45       0.00     170.94       0.00     146.26       0.00     174.13       0.00    1107.77
DIESEL/GAS OIL       395.23     109.07     116.98      14.32     304.47      22.11     172.77       6.83    1141.79
LPG/BOTTLED GAS        5.46       0.00       2.22       0.00       2.72       0.00       3.04       0.00      13.44
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
TOTAL               1048.64     109.07     291.00      14.32     472.95      22.11     351.36       6.83    2316.28
```

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                     26/06/97, 18:05:18
                        AREA: SAREC
                 SCENARIO: S2 - CLEAN TECHNOLOGY

                ENERGY DEMAND: FUEL BY SECTOR, 2006
                    (THOUSAND TONNES OIL EQ)

                  Del-Passe  Del-Freig  Cal-Passe  Cal-Freig  Bom-Passe  Bom-Freig  Ban-Passe  Ban-Freig      TOTAL
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
ELECTRICITY            8.72       0.00       1.83       0.00       4.25       0.00       4.36       0.00      19.16
NATURAL GAS           73.49       0.00       0.00       0.00      42.89       0.00       0.00       0.00     116.37
GASOLINE             639.91       0.00     170.13       0.00     158.57       0.00     235.49       0.00    1204.10
DIESEL/GAS OIL       516.11      91.06     123.28      13.64     343.63      26.36     195.08       5.02    1314.18
LPG/BOTTLED GAS       11.40       0.00       4.72       0.00       6.57       0.00      11.89       0.00      34.58
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
TOTAL               1249.62      91.06     299.96      13.64     555.91      26.36     446.82       5.02    2688.39

                ENERGY DEMAND: FUEL BY SECTOR, 2011
                    (THOUSAND TONNES OIL EQ)

                  Del-Passe  Del-Freig  Cal-Passe  Cal-Freig  Bom-Passe  Bom-Freig  Ban-Passe  Ban-Freig      TOTAL
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
ELECTRICITY           16.16       0.00       2.91       0.00       7.71       0.00      10.45       0.00      37.23
NATURAL GAS          144.48       0.00       0.00       0.00      77.77       0.00       0.00       0.00     222.25
GASOLINE             636.97       0.00     168.51       0.00     169.64       0.00     321.50       0.00    1296.63
DIESEL/GAS OIL       673.06      73.74     129.37      13.09     385.89      31.32     240.75       3.11    1550.32
LPG/BOTTLED GAS       17.85       0.00       7.50       0.00      11.91       0.00      32.61       0.00      69.87
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
TOTAL               1488.52      73.74     308.29      13.09     652.92      31.32     605.31       3.11    3176.30
```

Annexure 5.11

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	2001	2006	2011
Del-Passenger	181.35	165.80	142.00
Del-Freight	7.96	6.59	5.28
Cal-Passenger	51.11	44.00	35.58
Cal-Freight	1.08	1.00	0.95
Bom-Passenger	56.85	58.29	57.87
Bom-Freight	1.60	1.90	2.25
Ban-Passenger	62.72	78.88	105.01
Ban-Freight	0.49	0.36	0.22
TOTAL	363.16	356.83	349.15

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	2001	2006	2011
Del-Passenger	75.25	66.56	56.82
Del-Freight	1.19	0.98	0.77
Cal-Passenger	20.90	18.55	15.89
Cal-Freight	0.17	0.15	0.14
Bom-Passenger	23.27	24.45	25.10
Bom-Freight	0.24	0.28	0.33
Ban-Passenger	30.51	40.29	56.31
Ban-Freight	0.07	0.05	0.03
TOTAL	151.61	151.31	155.39

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
(THOUSAND KILOGRAMS)

	2001	2006	2011
Del-Passenger	106.88	91.84	66.47
Del-Freight	0.00	0.00	0.00
Cal-Passenger	29.05	23.90	17.71
Cal-Freight	0.00	0.00	0.00
Bom-Passenger	26.52	26.06	24.24
Bom-Freight	0.00	0.00	0.00
Ban-Passenger	32.23	41.75	56.16
Ban-Freight	0.00	0.00	0.00
TOTAL	194.68	183.54	164.58

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	2001	2006	2011
Del-Passenger	37.79	44.02	51.53
Del-Freight	13.42	11.13	8.93
Cal-Passenger	6.54	6.09	5.52
Cal-Freight	1.81	1.69	1.60
Bom-Passenger	21.43	23.72	26.04
Bom-Freight	2.71	3.21	3.80
Ban-Passenger	13.72	15.36	18.84
Ban-Freight	0.82	0.60	0.37
TOTAL	98.24	105.83	116.64

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
(MILLION KILOGRAMS)

	2001	2006	2011
Del-Passenger	5.46	6.67	8.16
Del-Freight	1.04	0.87	0.70
Cal-Passenger	1.58	1.64	1.70
Cal-Freight	0.14	0.13	0.12
Bom-Passenger	3.30	3.71	4.14
Bom-Freight	0.21	0.25	0.30
Ban-Passenger	2.12	2.51	3.18
Ban-Freight	0.07	0.05	0.03
TOTAL	13.92	15.83	18.33

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	2001	2006	2011
Del-Passenger	9.33	9.43	9.67
Del-Freight	1.28	1.06	0.85
Cal-Passenger	2.31	2.19	2.05
Cal-Freight	0.17	0.16	0.15
Bom-Passenger	3.76	4.13	4.48
Bom-Freight	0.26	0.31	0.36
Ban-Passenger	3.64	4.38	5.72
Ban-Freight	0.08	0.06	0.04
TOTAL	20.83	21.72	23.34

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Passenger			
2-wh			
2 stroke	28.84%	25.08%	22.81%
4 stroke	2.06%	3.86%	6.52%
3-wh			
2 stroke	24.10%	25.02%	27.46%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	11.79%	8.48%	1.09%
Post 1984 model	21.29%	19.16%	12.55%
Cat. convertor	2.02%	5.25%	10.61%
Diesel	0.40%	0.67%	1.10%
CNG	0.00%	0.00%	0.01%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	1.15%	0.96%	0.46%
Diesel	0.14%	0.19%	0.24%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	8.20%	11.32%	17.14%
CNG	0.00%	0.01%	0.02%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Freight			
hcv			
hcv	63.10%	60.15%	55.96%
lcv			
lcv	36.90%	39.85%	44.04%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Passenger			
2-wh			
2 stroke	14.47%	13.63%	13.31%
4 stroke	1.17%	2.19%	3.80%
3-wh			
2 stroke	34.83%	39.07%	46.03%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	24.65%	19.69%	10.89%
Post 1984 model	9.72%	7.94%	4.77%
Cat. convertor	2.28%	5.56%	11.11%
Diesel	0.84%	0.87%	0.91%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	8.33%	6.51%	3.27%
Diesel	1.14%	1.60%	2.35%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	2.56%	2.93%	3.56%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Freight			
hcv			
hcv	74.18%	65.81%	61.05%
lcv			
lcv	25.82%	34.19%	38.95%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Passenger			
2-wh			
2 stroke	12.24%	12.09%	11.87%
4 stroke	1.23%	2.12%	3.39%
3-wh			
2 stroke	38.27%	41.01%	44.95%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	12.05%	9.04%	4.72%
Post 1984 model	5.34%	4.10%	2.33%
Cat. Convertor	1.00%	2.25%	4.04%
Diesel	0.43%	0.42%	0.40%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	9.07%	6.58%	3.00%
Diesel	1.11%	1.30%	1.59%
CNG	0.00%	0.00%	0.01%
Bus			
Bus	19.25%	21.07%	23.68%
CNG	0.01%	0.01%	0.02%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Freight			
hcv			
hcv	61.05%	59.05%	56.96%
lcv			
lcv	38.95%	40.95%	43.04%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Passenger			
2-wh			
2 stroke	29.48%	19.02%	11.97%
4 stroke	3.17%	3.42%	3.42%
3-wh			
2 stroke	38.78%	54.85%	67.81%
Propone	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	7.95%	4.91%	2.02%
Post 1984 model	7.29%	5.26%	3.03%
Cat. Convertor	0.81%	1.48%	1.72%
Diesel	0.43%	0.31%	0.19%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	1.14%	0.82%	0.31%
Diesel	0.16%	0.20%	0.23%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	10.80%	9.74%	9.31%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Freight			
hcv			
hcv	54.78%	52.53%	50.19%
lcv			
lcv	45.22%	47.47%	49.81%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Passenger			
2-wh			
2 stroke	43.33%	38.94%	35.53%
4 stroke	1.49%	2.88%	4.88%
3-wh			
2 stroke	36.24%	38.89%	42.81%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	6.09%	4.53%	0.58%
Post 1984 model	8.10%	7.53%	4.95%
Cat. convertor	0.56%	1.51%	3.06%
Diesel	0.25%	0.43%	0.70%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.59%	0.51%	0.24%
Diesel	0.09%	0.12%	0.15%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	3.27%	4.66%	7.09%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Freight			
hcv			
hcv	69.86%	67.17%	63.26%
lcv			
lcv	30.14%	32.83%	36.74%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Passenger			
2-wh			
2 stroke	22.06%	20.16%	18.59%
4 stroke	0.86%	1.56%	2.56%
3-wh			
2 stroke	53.14%	57.84%	64.33%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	12.92%	10.01%	5.23%
Post 1984 model	3.75%	2.97%	1.69%
Cat. convertor	0.64%	1.52%	2.87%
Diesel	0.52%	0.52%	0.52%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	4.37%	3.31%	1.57%
Diesel	0.71%	0.96%	1.34%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	1.04%	1.15%	1.32%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Freight			
hcv			
hcv	79.57%	72.29%	68.00%
lcv			
lcv	20.43%	27.71%	32.00%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Passenger			
2-wh			
2 stroke	18.64%	17.97%	17.06%
4 stroke	0.90%	1.51%	2.35%
3-wh			
2 stroke	58.33%	61.02%	64.67%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	6.31%	4.62%	2.33%
Post 1984 model	2.06%	1.54%	0.85%
Cat. Convertor	0.28%	0.62%	1.07%
Diesel	0.27%	0.25%	0.23%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	4.75%	3.36%	1.48%
Diesel	0.69%	0.79%	0.93%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	7.78%	8.31%	9.03%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Freight			
hcv			
hcv	68.00%	66.15%	64.20%
lcv			
lcv	32.00%	33.85%	35.80%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Passenger			
2-wh			
2 stroke	37.77%	23.21%	13.92%
4 stroke	1.95%	2.01%	1.91%
3-wh			
2 stroke	49.74%	67.01%	78.91%
Propone	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	3.50%	2.06%	0.81%
Post 1984 model	2.36%	1.62%	0.89%
Cat. Convertor	0.19%	0.33%	0.37%
Diesel	0.22%	0.16%	0.09%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.50%	0.34%	0.13%
Diesel	0.08%	0.10%	0.11%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	3.67%	3.15%	2.87%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Freight			
hcv			
hcv	62.15%	60.00%	57.73%
lcv			
lcv	37.85%	40.00%	42.27%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA
ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Passenger			
2-wh			
2 stroke	19.90%	18.40%	19.81%
4 stroke	3.36%	6.70%	13.38%
3-wh			
2 stroke	24.53%	27.10%	35.19%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	11.00%	8.41%	1.28%
Post 1984 model	40.14%	38.44%	29.80%
Cat. convertor	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	1.07%	0.95%	0.54%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Passenger			
2-wh			
2 stroke	10.35%	10.20%	10.87%
4 stroke	1.97%	3.88%	7.35%
3-wh			
2 stroke	36.77%	43.16%	55.49%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	23.83%	19.92%	12.02%
Post 1984 model	19.01%	16.25%	10.65%
Cat. convertor	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	8.06%	6.58%	3.61%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC

SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Passenger			
2-wh			
2 stroke	10.66%	10.99%	11.52%
4 stroke	2.53%	4.55%	7.79%
3-wh			
2 stroke	49.21%	55.05%	64.39%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	14.19%	11.11%	6.19%
Post 1984 model	12.72%	10.20%	6.17%
Cat. Convertor	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	10.68%	8.09%	3.94%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Passenger			
2-wh			
2 stroke	23.32%	14.61%	9.10%
4 stroke	5.93%	6.22%	6.15%
3-wh			
2 stroke	45.27%	62.19%	76.06%
Propone	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	8.50%	5.10%	2.08%
Post 1984 model	15.77%	11.04%	6.28%
Cat. Convertor	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	1.22%	0.85%	0.32%
Diesel	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Passenger			
2-wh			
2 stroke	1.67%	1.14%	0.76%
4 stroke	0.32%	0.47%	0.58%
3-wh			
2 stroke	0.94%	0.77%	0.62%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	5.29%	2.98%	0.28%
Post 1984 model	20.36%	14.38%	6.89%
Cat. convertor	2.24%	4.56%	6.75%
Diesel	2.45%	3.23%	3.84%
CNG	0.11%	0.24%	0.35%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.51%	0.34%	0.12%
Diesel	0.85%	0.91%	0.85%
CNG	0.02%	0.04%	0.06%
Bus			
Bus	65.06%	70.51%	78.13%
CNG	0.18%	0.43%	0.78%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Freight			
hcv			
hcv	62.09%	59.11%	54.89%
lcv			
lcv	37.91%	40.89%	45.11%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Passenger			
2-wh			
2 stroke	1.36%	1.18%	1.03%
4 stroke	0.30%	0.51%	0.80%
3-wh			
2 stroke	2.22%	2.30%	2.42%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	18.00%	13.28%	6.55%
Post 1984 model	15.15%	11.43%	6.13%
Cat. convertor	4.12%	9.27%	16.52%
Diesel	8.33%	7.99%	7.47%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	6.08%	4.39%	1.97%
Diesel	11.31%	14.68%	19.23%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	33.13%	34.96%	37.89%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Freight			
hcv			
hcv	73.34%	64.83%	60.02%
lcv			
lcv	26.66%	35.17%	39.98%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Passenger			
2-wh			
2 stroke	0.39%	0.36%	0.32%
4 stroke	0.11%	0.17%	0.24%
3-wh			
2 stroke	0.83%	0.82%	0.82%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	2.99%	2.08%	0.98%
Post 1984 model	2.82%	2.01%	1.03%
Cat. Convertor	0.61%	1.27%	2.07%
Diesel	1.47%	1.31%	1.12%
CNG	0.03%	0.06%	0.10%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	2.25%	1.51%	0.62%
Diesel	3.73%	4.08%	4.49%
CNG	0.08%	0.18%	0.30%
Bus			
Bus	84.45%	85.63%	87.05%
CNG	0.24%	0.52%	0.86%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Freight			
hcv			
hcv	60.02%	58.00%	55.89%
lcv			
lcv	39.98%	42.00%	44.11%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Passenger			
2-wh			
2 stroke	1.62%	1.18%	0.80%
4 stroke	0.47%	0.57%	0.62%
3-wh			
2 stroke	1.45%	2.30%	3.08%
Propone	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	3.39%	2.35%	1.05%
Post 1984 model	6.64%	5.38%	3.36%
Cat. Convertor	0.86%	1.75%	2.21%
Diesel	2.48%	2.04%	1.31%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.49%	0.39%	0.16%
Diesel	0.90%	1.31%	1.60%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	81.69%	82.72%	85.80%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Freight			
hcv			
hcv	53.71%	51.45%	49.11%
lcv			
lcv	46.29%	48.55%	50.89%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Passenger			
2-wh			
2 stroke	5.45%	3.55%	2.26%
4 stroke	0.92%	1.29%	1.53%
3-wh			
2-stroke	6.72%	5.22%	4.01%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	3.01%	1.62%	0.15%
Post 1984 model	11.00%	7.40%	3.40%
Cat. convertor	3.66%	7.11%	10.07%
Diesel	11.30%	14.20%	16.17%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.29%	0.18%	0.06%
Diesel	3.94%	4.00%	3.56%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	53.68%	55.43%	58.80%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Freight			
hcv			
hcv	56.66%	53.58%	49.28%
lcv			
lcv	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Passenger			
2-wh			
2 stroke	2.66%	2.08%	1.59%
4 stroke	0.51%	0.79%	1.07%
3-wh			
2 stroke	9.44%	8.80%	8.11%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	6.12%	4.06%	1.76%
Post 1984 model	4.88%	3.31%	1.56%
Cat. convertor	4.02%	8.13%	12.72%
Diesel	22.90%	19.75%	16.22%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	2.07%	1.34%	0.53%
Diesel	31.11%	36.28%	41.72%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	16.30%	15.46%	14.71%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Freight			
hcv			
hcv	68.72%	59.54%	54.51%
lcv			
lcv	31.28%	40.46%	45.49%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Passenger			
2-wh			
2 stroke	1.20%	1.08%	0.94%
4 stroke	0.28%	0.45%	0.64%
3-wh			
2 stroke	5.54%	5.42%	5.28%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	1.60%	1.09%	0.51%
Post 1984 model	1.43%	1.00%	0.51%
Cat. Convertor	0.94%	1.93%	3.08%
Diesel	6.34%	5.57%	4.68%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	1.20%	0.80%	0.32%
Diesel	16.14%	17.37%	18.81%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	65.33%	65.29%	65.24%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Freight			
hcv			
hcv	54.51%	52.43%	50.29%
lcv			
lcv	45.49%	47.57%	49.71%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Passenger			
2-wh			
2 stroke	4.95%	3.41%	2.25%
4 stroke	1.26%	1.45%	1.52%
3-wh			
2 stroke	9.62%	14.51%	18.83%
Propone	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	1.81%	1.19%	0.51%
Post 1984 model	3.35%	2.57%	1.56%
Cat. Convertor	1.31%	2.54%	3.09%
Diesel	10.69%	8.35%	5.18%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.26%	0.20%	0.08%
Diesel	3.89%	5.36%	6.32%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	62.87%	60.43%	60.66%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Freight			
hcv			
hcv	48.08%	45.83%	43.52%
lcv			
lcv	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Passenger			
2-wh			
2 stroke	33.74%	26.54%	20.14%
4 stroke	1.33%	2.26%	3.19%
3-wh			
2 stroke	19.12%	17.96%	16.44%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	2.61%	1.70%	0.18%
Post 1984 model	10.89%	8.86%	4.84%
Cat. convertor	1.20%	2.83%	4.77%
Diesel	4.26%	6.48%	8.78%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.25%	0.19%	0.08%
Diesel	1.49%	1.82%	1.93%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	25.11%	31.36%	39.63%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Del-Freight			
hcv			
hcv	61.72%	58.74%	54.51%
lcv			
lcv	38.28%	41.26%	45.49%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Passenger			
2-wh			
2 stroke	19.29%	16.49%	13.88%
4 stroke	0.86%	1.47%	2.20%
3-wh			
2 stroke	31.48%	32.06%	32.54%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	6.22%	4.51%	2.15%
Post 1984 model	5.66%	4.20%	2.17%
Cat. convertor	1.55%	3.43%	5.90%
Diesel	10.13%	9.54%	8.62%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	2.10%	1.49%	0.65%
Diesel	13.76%	17.53%	22.19%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	8.94%	9.27%	9.71%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Cal-Freight			
hcv			
hcv	73.04%	64.48%	59.65%
lcv			
lcv	26.96%	35.52%	40.35%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Passenger			
2-wh			
2 stroke	11.12%	10.27%	9.22%
4 stroke	0.62%	1.00%	1.46%
3-wh			
2 stroke	23.58%	23.62%	23.67%
Propane	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	2.07%	1.45%	0.69%
Post 1984 model	2.12%	1.52%	0.79%
Cat. Convertor	0.46%	0.97%	1.60%
Diesel	3.58%	3.22%	2.78%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	1.56%	1.06%	0.44%
Diesel	9.12%	10.05%	11.19%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	45.77%	46.84%	48.15%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Bom-Freight			
hcv			
hcv	59.65%	57.62%	55.51%
lcv			
lcv	40.35%	42.38%	44.49%
TOTAL	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S2BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Passenger			
2-wh			
2 stroke	30.58%	20.58%	13.22%
4 stroke	1.82%	2.05%	2.09%
3-wh			
2 stroke	27.27%	40.26%	50.76%
Propone	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Car/Jeep			
Pre 1984 model	1.56%	1.01%	0.42%
Post 1984 model	3.31%	2.49%	1.46%
Cat. Convertor	0.43%	0.81%	0.97%
Diesel	4.02%	3.07%	1.85%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
Taxi			
Petrol	0.22%	0.17%	0.07%
Diesel	1.46%	1.97%	2.26%
CNG	0.00%	0.00%	0.00%
Bus			
Bus	29.33%	27.59%	26.91%
CNG	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	2001	2006	2011
Ban-Freight			
hcv			
hcv	53.32%	51.07%	48.72%
lcv			
lcv	46.68%	48.93%	51.28%
TOTAL	100.00%	100.00%	100.00%

Annexure 5.12

27/06/97, 17:45:38
AREA: SAREC
SCENARIO: S3 - INTEGRATED S1+S2

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
(THOUSAND TONNES OIL EQ)

	1991	1996	2001	2006	2011
Del-Passenger	602.51	760.79	949.05	1081.91	1258.79
Del-Freight	86.23	112.47	109.07	91.06	73.74
Cal-Passenger	254.18	244.68	223.76	187.08	151.22
Cal-Freight	10.54	12.25	14.32	13.64	13.09
Bom-Passenger	331.81	393.73	454.20	524.36	606.03
Bom-Freight	15.97	18.60	22.11	26.36	31.32
Ban-Passenger	168.28	286.25	346.93	397.97	505.76
Ban-Freight	9.35	13.84	6.83	5.02	3.11
TOTAL	1478.88	1842.62	2126.28	2327.40	2643.06

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
(THOUSAND TONNES OIL EQ)

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh	83.06	97.15	106.94	103.75	97.13
3-wh	85.81	94.36	95.36	79.65	54.17
Car/Jeep	240.75	276.46	310.76	308.42	296.01
Taxi	27.61	39.19	52.30	63.90	79.83
Bus	165.29	253.63	383.70	526.18	731.64
Del-Freight					
hcv	53.03	66.95	61.80	48.79	36.34
lcv	33.21	45.52	47.27	42.27	37.40
Cal-Passenger					
2-wh	13.99	14.25	13.80	12.39	10.98
3-wh	27.77	24.72	19.73	12.98	6.12
Car/Jeep	138.21	119.65	94.41	62.28	31.50
Taxi	52.33	50.28	43.86	32.69	19.93
Bus	21.87	35.79	51.96	66.75	82.69
Cal-Freight					
hcv	6.77	8.56	9.84	8.12	7.13
lcv	3.77	3.69	4.48	5.52	5.95
Bom-Passenger					
2-wh	13.02	23.03	35.59	51.49	71.37
3-wh	49.59	51.01	48.97	44.82	37.99
Car/Jeep	53.90	54.95	52.65	48.63	42.60
Taxi	49.20	63.87	77.07	92.92	111.98
Bus	166.10	200.87	239.92	286.51	342.09
Bom-Freight					
hcv	10.10	10.44	12.05	13.82	15.75
lcv	5.87	8.16	10.06	12.54	15.57
Ban-Passenger					
2-wh	31.30	48.73	54.82	56.91	63.26
3-wh	15.74	25.39	27.90	28.27	30.71
Car/Jeep	59.97	83.52	76.49	58.07	35.32
Taxi	6.55	20.64	37.87	60.15	99.99
Bus	54.72	107.96	149.85	194.56	276.49
Ban-Freight					
hcv	5.98	6.90	3.28	2.30	1.35
lcv	3.37	6.94	3.55	2.72	1.75
TOTAL	1478.88	1842.62	2126.28	2327.40	2643.06

SCENARIO: S3 - INTEGRATED S1+S2

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Passenger					
2-wh					
2 stroke	13.43%	12.33%	9.64%	7.03%	4.60%
4 stroke	0.36%	0.44%	1.63%	2.56%	3.11%
3-wh					
2 stroke	14.24%	12.40%	9.57%	6.63%	3.64%
Propane	0.00%	0.00%	0.39%	0.60%	0.55%
BOV	0.00%	0.00%	0.09%	0.13%	0.12%
Car/Jeep					
Pre 1984 model	10.66%	7.30%	4.59%	2.16%	0.17%
Post 1984 model	25.05%	24.26%	16.77%	9.88%	4.02%
Cat. convertor	0.00%	0.62%	5.58%	9.50%	11.91%
Diesel	4.25%	4.15%	4.98%	5.48%	5.52%
CNG	0.00%	0.00%	0.75%	1.35%	1.72%
BOV	0.00%	0.00%	0.08%	0.13%	0.17%
Taxi					
Petrol	2.54%	1.35%	1.07%	0.72%	0.29%
Diesel	2.04%	3.80%	4.14%	4.52%	4.95%
CNG	0.00%	0.00%	0.31%	0.67%	1.10%
Bus					
Bus	27.43%	33.34%	38.21%	43.23%	48.31%
CNG	0.00%	0.00%	2.05%	4.99%	9.06%
BOV	0.00%	0.00%	0.17%	0.42%	0.75%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Del-Freight					
hcv					
hcv	61.49%	59.53%	56.66%	53.58%	49.28%
lcv					
lcv	38.51%	40.47%	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

SCENARIO: S3 - INTEGRATED S1+S2

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Passenger					
2-wh					
2 stroke	5.29%	5.50%	5.18%	4.80%	4.33%
4 stroke	0.22%	0.32%	0.99%	1.82%	2.93%
3-wh					
2 stroke	10.93%	10.10%	8.40%	6.25%	3.42%
Propane	0.00%	0.00%	0.34%	0.56%	0.51%
BOV	0.00%	0.00%	0.08%	0.13%	0.11%
Car/Jeep					
Pre 1984 model	23.00%	17.70%	11.91%	6.34%	1.75%
Post 1984 model	12.00%	13.97%	9.50%	5.18%	1.55%
Cat. convertor	0.00%	0.71%	7.82%	12.71%	12.70%
Diesel	19.38%	16.52%	12.88%	8.92%	4.68%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.08%	0.14%	0.15%
Taxi					
Petrol	11.43%	5.40%	3.67%	1.98%	0.55%
Diesel	9.16%	15.15%	15.94%	15.49%	12.63%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	8.60%	14.63%	23.13%	35.37%	53.97%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.10%	0.30%	0.71%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Cal-Freight					
hcv					
hcv	64.21%	69.85%	68.72%	59.54%	54.51%
lcv					
lcv	35.79%	30.15%	31.28%	40.46%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

SCENARIO: S3 - INTEGRATED S1+S2

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Passenger					
2-wh					
2 stroke	3.75%	5.27%	6.33%	6.94%	7.03%
4 stroke	0.18%	0.58%	1.50%	2.88%	4.75%
3-wh					
2 stroke	14.94%	12.96%	10.27%	7.70%	5.30%
Propane	0.00%	0.00%	0.42%	0.69%	0.79%
BOV	0.00%	0.00%	0.09%	0.15%	0.18%
Car/Jeep					
Pre 1984 model	8.19%	4.77%	3.12%	1.71%	0.60%
Post 1984 model	3.90%	4.23%	2.80%	1.57%	0.60%
Cat. Convertor	0.00%	0.20%	1.84%	3.02%	3.66%
Diesel	4.15%	4.75%	3.58%	2.52%	1.61%
CNG	0.00%	0.00%	0.24%	0.41%	0.50%
BOV	0.00%	0.00%	0.02%	0.04%	0.05%
Taxi					
Petrol	8.23%	4.26%	3.28%	2.15%	0.86%
Diesel	6.60%	11.96%	12.74%	13.56%	14.41%
CNG	0.00%	0.00%	0.95%	2.01%	3.21%
Bus					
Bus	50.06%	51.02%	49.93%	48.57%	46.92%
CNG	0.00%	0.00%	2.67%	5.60%	8.80%
BOV	0.00%	0.00%	0.22%	0.47%	0.73%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Bom-Freight					
hcv					
hcv	63.26%	56.12%	54.51%	52.43%	50.29%
lcv					
lcv	36.74%	43.88%	45.49%	47.57%	49.71%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

SCENARIO: S3 - INTEGRATED S1+S2

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Passenger					
2-wh					
2 stroke	17.79%	15.08%	13.64%	12.01%	10.21%
4 stroke	0.82%	1.94%	2.16%	2.29%	2.30%
3-wh					
2 stroke	9.35%	8.87%	7.66%	6.40%	5.13%
Propone	0.00%	0.00%	0.31%	0.58%	0.77%
BOV	0.00%	0.00%	0.07%	0.13%	0.17%
Car/Jeep					
Pre 1984 model	13.60%	6.88%	4.16%	1.98%	0.54%
Post 1984 model	11.27%	11.66%	7.71%	4.29%	1.62%
Cat. Convertor	0.00%	0.00%	3.02%	4.23%	3.22%
Diesel	10.76%	10.64%	7.11%	4.02%	1.56%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.05%	0.06%	0.05%
Taxi					
Petrol	2.16%	1.90%	2.04%	1.71%	0.83%
Diesel	1.73%	5.32%	8.88%	13.40%	18.94%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
Bus					
Bus	32.52%	37.71%	43.01%	48.47%	53.96%
CNG	0.00%	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.18%	0.42%	0.71%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

ENERGY DEMAND: SECTOR BY YEAR, ALL BALANCE CATEGORIES
PERCENT SHARE

	1991	1996	2001	2006	2011
Ban-Freight					
hcv					
hcv	63.96%	49.85%	48.08%	45.83%	43.52%
lcv					
lcv	36.04%	50.15%	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

27/06/97, 17:49:10
AREA: SAREC
SCENARIO: S3 - INTEGRATED S1+S2

ENERGY DEMAND: FUEL BY SECTOR, 1991
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	399.35	0.00	159.78	0.00	130.06	0.00	92.54	0.00	781.72
DIESEL/GAS OIL	203.16	86.23	94.41	10.54	201.75	15.97	75.74	9.35	697.16
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	602.51	86.23	254.18	10.54	331.81	15.97	168.28	9.35	1478.88

ENERGY DEMAND: FUEL BY SECTOR, 1996
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATURAL GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GASOLINE	446.68	0.00	131.41	0.00	127.07	0.00	132.62	0.00	837.78
DIESEL/GAS OIL	314.11	112.47	113.27	12.25	266.67	18.60	153.62	13.84	1004.84
LPG/BOTTLED GAS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	760.79	112.47	244.68	12.25	393.73	18.60	286.25	13.84	1842.62

ENERGY DEMAND: FUEL BY SECTOR, 2001
(THOUSAND TONNES OIL EQ)

	Del-Passe	Del-Freig	Cal-Passe	Cal-Freig	Bom-Passe	Bom-Freig	Ban-Passe	Ban-Freig	TOTAL
ELECTRICITY	3.16	0.00	0.58	0.00	1.54	0.00	1.03	0.00	6.31
NATURAL GAS	29.47	0.00	0.00	0.00	17.52	0.00	0.00	0.00	46.99
GASOLINE	463.53	0.00	106.19	0.00	132.35	0.00	140.13	0.00	842.20
DIESEL/GAS OIL	449.18	109.07	116.22	14.32	300.88	22.11	204.68	6.83	1223.30
LPG/BOTTLED GAS	3.72	0.00	0.77	0.00	1.91	0.00	1.09	0.00	7.48
TOTAL	949.05	109.07	223.76	14.32	454.20	22.11	346.93	6.83	2126.28

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                       27/06/97, 17:50:01
                          AREA: SAREC
                 SCENARIO: S3 - INTEGRATED S1+S2

                ENERGY DEMAND: FUEL BY SECTOR, 2006
                     (THOUSAND TONNES OIL EQ)

                  Del-Passe  Del-Freig  Cal-Passe  Cal-Freig  Bom-Passe  Bom-Freig  Ban-Passe  Ban-Freig      TOTAL
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
ELECTRICITY            7.39       0.00       1.07       0.00       3.47       0.00       2.43       0.00      14.36
NATURAL GAS           75.81       0.00       0.00       0.00      42.08       0.00       0.00       0.00     117.89
GASOLINE             416.35       0.00      73.11       0.00     136.19       0.00     131.00       0.00     756.67
DIESEL/GAS OIL       575.89      91.06     111.84      13.64     338.99      26.36     262.25       5.02    1425.05
LPG/BOTTLED GAS        6.46       0.00       1.05       0.00       3.63       0.00       2.29       0.00      13.44
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
TOTAL               1081.91      91.06     187.08      13.64     524.36      26.36     397.97       5.02    2327.40

                ENERGY DEMAND: FUEL BY SECTOR, 2011
                     (THOUSAND TONNES OIL EQ)

                  Del-Passe  Del-Freig  Cal-Passe  Cal-Freig  Bom-Passe  Bom-Freig  Ban-Passe  Ban-Freig      TOTAL
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
ELECTRICITY           13.19       0.00       1.47       0.00       5.82       0.00       4.70       0.00      25.18
NATURAL GAS          149.56       0.00       0.00       0.00      75.81       0.00       0.00       0.00     225.37
GASOLINE             349.26       0.00      41.19       0.00     138.17       0.00     120.60       0.00     649.21
DIESEL/GAS OIL       739.91      73.74     107.78      13.09     381.43      31.32     376.57       3.11    1726.95
LPG/BOTTLED GAS        6.87       0.00       0.78       0.00       4.82       0.00       3.89       0.00      16.35
                  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
TOTAL               1258.79      73.74     151.22      13.09     606.03      31.32     505.76       3.11    2643.06
```

Annexure 5.13

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1996	2001	2006	2011
Del-Passenger	146.32	145.66	125.00	100.52
Del-Freight	8.27	7.96	6.59	5.28
Cal-Passenger	43.72	32.54	21.06	12.63
Cal-Freight	0.92	1.08	1.00	0.95
Bom-Passenger	53.36	55.43	56.67	56.76
Bom-Freight	1.36	1.60	1.90	2.25
Ban-Passenger	50.94	53.90	52.54	54.93
Ban-Freight	0.99	0.49	0.36	0.22
TOTAL	305.87	298.65	265.13	233.54

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1996	2001	2006	2011
Del-Passenger	60.19	59.09	49.30	37.19
Del-Freight	1.25	1.19	0.98	0.77
Cal-Passenger	14.96	11.43	7.57	4.47
Cal-Freight	0.14	0.17	0.15	0.14
Bom-Passenger	21.81	23.27	24.30	24.62
Bom-Freight	0.20	0.24	0.28	0.33
Ban-Passenger	22.39	23.96	23.61	24.91
Ban-Freight	0.15	0.07	0.05	0.03
TOTAL	121.09	119.42	106.24	92.47

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
(THOUSAND KILOGRAMS)

	1996	2001	2006	2011
Del-Passenger	86.86	80.69	61.63	39.18
Del-Freight	0.00	0.00	0.00	0.00
Cal-Passenger	25.49	17.43	9.70	4.32
Cal-Freight	0.00	0.00	0.00	0.00
Bom-Passenger	24.82	24.37	23.65	22.79
Bom-Freight	0.00	0.00	0.00	0.00
Ban-Passenger	26.06	25.48	22.44	20.50
Ban-Freight	0.00	0.00	0.00	0.00
TOTAL	163.22	147.97	117.42	86.79

SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1996	2001	2006	2011
Del-Passenger	30.71	39.23	46.05	55.54
Del-Freight	13.93	13.42	11.13	8.93
Cal-Passenger	7.23	7.30	7.18	7.40
Cal-Freight	1.55	1.81	1.69	1.60
Bom-Passenger	19.04	21.10	23.30	25.63
Bom-Freight	2.29	2.71	3.21	3.80
Ban-Passenger	11.65	14.89	18.10	24.44
Ban-Freight	1.68	0.82	0.60	0.37
TOTAL	88.07	101.29	111.27	127.70

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
(MILLION KILOGRAMS)

	1996	2001	2006	2011
Del-Passenger	4.22	5.55	6.63	8.01
Del-Freight	1.07	1.04	0.87	0.70
Cal-Passenger	1.44	1.40	1.27	1.14
Cal-Freight	0.12	0.14	0.13	0.12
Bom-Passenger	2.89	3.23	3.60	4.01
Bom-Freight	0.18	0.21	0.25	0.30
Ban-Passenger	1.83	2.33	2.86	3.92
Ban-Freight	0.13	0.07	0.05	0.03
TOTAL	11.87	13.96	15.65	18.23

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
(MILLION KILOGRAMS)

	1996	2001	2006	2011
Del-Passenger	7.45	8.31	8.37	8.49
Del-Freight	1.33	1.28	1.06	0.85
Cal-Passenger	1.87	1.66	1.37	1.13
Cal-Freight	0.15	0.17	0.16	0.15
Bom-Passenger	3.46	3.88	4.30	4.71
Bom-Freight	0.22	0.26	0.31	0.36
Ban-Passenger	2.99	3.49	3.85	4.73
Ban-Freight	0.16	0.08	0.06	0.04
TOTAL	17.62	19.12	19.48	20.46

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Passenger				
2-wh				
2 stroke	31.00%	30.37%	29.42%	27.88%
4 stroke	0.47%	2.17%	4.53%	7.96%
3-wh				
2 stroke	21.12%	20.42%	18.80%	14.92%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	13.58%	10.70%	6.70%	0.77%
Post 1984 model	22.32%	19.32%	15.13%	8.90%
Cat. convertor	0.16%	1.83%	4.15%	7.52%
Diesel	0.24%	0.36%	0.53%	0.78%
CNG	0.00%	0.00%	0.00%	0.01%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	2.52%	2.48%	2.22%	1.32%
Diesel	0.22%	0.30%	0.44%	0.70%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	8.37%	12.03%	18.07%	29.22%
CNG	0.00%	0.00%	0.01%	0.03%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Freight				
hcv				
hcv	65.80%	63.10%	60.15%	55.96%
lcv				
lcv	34.20%	36.90%	39.85%	44.04%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Passenger				
2-wh				
2 stroke	14.88%	17.22%	20.60%	25.07%
4 stroke	0.37%	1.39%	3.31%	7.16%
3-wh				
2 stroke	18.52%	18.91%	18.19%	13.41%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	35.44%	29.29%	20.16%	7.51%
Post 1984 model	13.83%	11.55%	8.13%	3.29%
Cat. convertor	0.20%	2.71%	5.69%	7.67%
Diesel	1.04%	1.00%	0.89%	0.63%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	10.81%	9.02%	6.30%	2.37%
Diesel	0.95%	1.23%	1.55%	1.70%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	3.95%	7.68%	15.18%	31.20%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Freight				
hcv				
hcv	75.19%	74.18%	65.81%	61.05%
lcv				
lcv	24.81%	25.82%	34.19%	38.95%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Passenger				
2-wh				
2 stroke	18.80%	25.09%	31.06%	36.28%
4 stroke	0.87%	2.52%	5.44%	10.36%
3-wh				
2 stroke	31.31%	27.56%	23.34%	18.53%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	12.60%	9.14%	5.67%	2.31%
Post 1984 model	5.52%	4.05%	2.57%	1.14%
Cat. Convertor	0.08%	0.76%	1.41%	1.97%
Diesel	0.39%	0.33%	0.26%	0.19%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	11.25%	9.61%	7.11%	3.27%
Diesel	0.99%	1.17%	1.41%	1.73%
CNG	0.00%	0.00%	0.01%	0.01%
Bus				
Bus	18.18%	19.76%	21.71%	24.19%
CNG	0.00%	0.01%	0.01%	0.03%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Freight				
hcv				
hcv	62.59%	61.05%	59.05%	56.96%
lcv				
lcv	37.41%	38.95%	40.95%	43.04%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Passenger				
2-wh				
2 stroke	40.98%	42.45%	43.98%	45.45%
4 stroke	2.23%	2.84%	3.54%	4.33%
3-wh				
2 stroke	16.33%	16.15%	15.88%	15.48%
Propone	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	13.83%	9.57%	5.37%	1.76%
Post 1984 model	11.59%	8.78%	5.75%	2.64%
Cat. Convertor	0.00%	0.98%	1.62%	1.50%
Diesel	0.67%	0.51%	0.34%	0.16%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	3.81%	4.70%	4.65%	2.73%
Diesel	0.34%	0.64%	1.14%	1.96%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	10.24%	13.37%	17.73%	24.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / CARBON MONOXIDE / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Freight				
hcv				
hcv	56.53%	54.78%	52.53%	50.19%
lcv				
lcv	43.47%	45.22%	47.47%	49.81%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Passenger				
2-wh				
2 stroke	46.97%	46.66%	46.50%	46.96%
4 stroke	0.34%	1.60%	3.44%	6.46%
3-wh				
2 stroke	32.05%	31.41%	29.75%	25.16%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	7.07%	5.65%	3.64%	0.45%
Post 1984 model	8.56%	7.52%	6.05%	3.79%
Cat. convertor	0.05%	0.52%	1.21%	2.34%
Diesel	0.15%	0.23%	0.34%	0.53%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	1.31%	1.31%	1.20%	0.76%
Diesel	0.14%	0.19%	0.28%	0.48%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	3.37%	4.90%	7.58%	13.06%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Freight				
hcv				
hcv	72.28%	69.86%	67.17%	63.26%
lcv				
lcv	27.72%	30.14%	32.83%	36.74%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Passenger				
2-wh				
2 stroke	27.11%	30.55%	35.75%	44.12%
4 stroke	0.32%	1.18%	2.76%	6.07%
3-wh				
2 stroke	33.77%	33.60%	31.59%	23.63%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	22.19%	17.86%	12.02%	4.54%
Post 1984 model	6.38%	5.19%	3.57%	1.47%
Cat. convertor	0.07%	0.89%	1.83%	2.50%
Diesel	0.77%	0.72%	0.63%	0.45%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	6.77%	5.50%	3.76%	1.43%
Diesel	0.71%	0.89%	1.10%	1.22%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	1.91%	3.62%	6.99%	14.57%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Freight				
hcv				
hcv	80.42%	79.57%	72.29%	68.00%
lcv				
lcv	19.58%	20.43%	27.71%	32.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Passenger				
2-wh				
2 stroke	28.67%	37.24%	45.15%	52.13%
4 stroke	0.64%	1.80%	3.80%	7.17%
3-wh				
2 stroke	47.81%	40.96%	33.97%	26.66%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	6.61%	4.67%	2.83%	1.14%
Post 1984 model	2.13%	1.52%	0.95%	0.41%
Cat. Convertor	0.02%	0.21%	0.38%	0.52%
Diesel	0.25%	0.20%	0.16%	0.11%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	5.90%	4.91%	3.55%	1.62%
Diesel	0.62%	0.71%	0.84%	1.01%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	7.36%	7.78%	8.37%	9.23%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Freight				
hcv				
hcv	69.39%	68.00%	66.15%	64.20%
lcv				
lcv	30.61%	32.00%	33.85%	35.80%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Passenger				
2-wh				
2 stroke	58.11%	59.52%	61.01%	62.48%
4 stroke	1.52%	1.92%	2.37%	2.86%
3-wh				
2 stroke	23.18%	22.67%	22.05%	21.30%
Propone	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	6.74%	4.61%	2.56%	0.83%
Post 1984 model	4.16%	3.12%	2.02%	0.92%
Cat. Convertor	0.00%	0.25%	0.41%	0.38%
Diesel	0.39%	0.29%	0.19%	0.09%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	1.86%	2.27%	2.22%	1.29%
Diesel	0.19%	0.37%	0.65%	1.10%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	3.85%	4.98%	6.53%	8.75%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / HYDROCARBONS / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Freight				
hcv				
hcv	63.80%	62.15%	60.00%	57.73%
lcv				
lcv	36.20%	37.85%	40.00%	42.27%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA
ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Passenger				
2-wh				
2 stroke	21.23%	22.28%	24.26%	29.08%
4 stroke	0.75%	3.76%	8.83%	19.65%
3-wh				
2 stroke	21.35%	22.12%	22.88%	22.96%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	12.57%	10.62%	7.46%	1.09%
Post 1984 model	41.77%	38.76%	34.10%	25.36%
Cat. convertor	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	2.33%	2.46%	2.47%	1.86%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Passenger				
2-wh				
2 stroke	10.38%	13.07%	18.19%	29.79%
4 stroke	0.61%	2.49%	6.91%	20.13%
3-wh				
2 stroke	19.06%	21.19%	23.70%	23.53%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	33.40%	30.04%	24.05%	12.06%
Post 1984 model	26.36%	23.96%	19.62%	10.69%
Cat. convertor	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	10.19%	9.25%	7.52%	3.80%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Passenger				
2-wh				
2 stroke	16.43%	23.20%	30.25%	36.73%
4 stroke	1.81%	5.51%	12.53%	24.81%
3-wh				
2 stroke	40.40%	37.61%	33.55%	27.69%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	14.88%	11.42%	7.46%	3.15%
Post 1984 model	13.19%	10.24%	6.85%	3.15%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	13.29%	12.02%	9.36%	4.47%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / METALS / LEAD
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Passenger				
2-wh				
2 stroke	32.56%	36.50%	41.86%	49.50%
4 stroke	4.19%	5.78%	7.98%	11.15%
3-wh				
2 stroke	19.15%	20.49%	22.31%	24.88%
Propone	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	14.85%	11.12%	6.91%	2.60%
Post 1984 model	25.17%	20.64%	14.97%	7.85%
Cat. Convertor	0.00%	0.00%	0.00%	0.00%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	4.09%	5.46%	5.98%	4.02%
Diesel	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	0.00%	0.00%	0.00%	0.00%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Passenger				
2-wh				
2 stroke	1.78%	1.36%	0.96%	0.61%
4 stroke	0.07%	0.26%	0.40%	0.47%
3-wh				
2 stroke	0.82%	0.62%	0.42%	0.22%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	6.04%	3.71%	1.70%	0.13%
Post 1984 model	21.19%	14.30%	8.18%	3.21%
Cat. convertor	0.18%	1.57%	2.60%	3.14%
Diesel	1.47%	1.72%	1.84%	1.79%
CNG	0.00%	0.08%	0.13%	0.17%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	1.12%	0.86%	0.56%	0.22%
Diesel	1.34%	1.43%	1.52%	1.60%
CNG	0.00%	0.03%	0.07%	0.11%
Bus				
Bus	65.98%	73.85%	81.13%	87.47%
CNG	0.00%	0.21%	0.50%	0.87%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Freight				
hcv				
hcv	64.82%	62.09%	59.11%	54.89%
lcv				
lcv	35.18%	37.91%	40.89%	45.11%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Passenger				
2-wh				
2 stroke	1.08%	0.92%	0.73%	0.52%
4 stroke	0.07%	0.20%	0.32%	0.40%
3-wh				
2 stroke	0.91%	0.69%	0.44%	0.19%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	20.02%	12.19%	5.52%	1.20%
Post 1984 model	16.67%	10.25%	4.75%	1.12%
Cat. convertor	0.28%	2.79%	3.85%	3.02%
Diesel	7.99%	5.64%	3.32%	1.37%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	6.11%	3.75%	1.72%	0.38%
Diesel	7.33%	6.98%	5.77%	3.69%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	39.54%	56.59%	73.59%	88.13%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Freight				
HCV				
hcv	74.37%	73.34%	64.83%	60.02%
LCV				
lcv	25.63%	26.66%	35.17%	39.98%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Passenger				
2-wh				
2 stroke	0.63%	0.79%	0.91%	0.97%
4 stroke	0.08%	0.21%	0.43%	0.75%
3-wh				
2 stroke	0.72%	0.59%	0.46%	0.33%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	3.30%	2.24%	1.29%	0.48%
Post 1984 model	3.08%	2.12%	1.25%	0.50%
Cat. Convertor	0.05%	0.46%	0.79%	1.01%
Diesel	1.40%	1.10%	0.81%	0.54%
CNG	0.00%	0.02%	0.04%	0.05%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	2.94%	2.36%	1.62%	0.68%
Diesel	3.53%	3.92%	4.36%	4.87%
CNG	0.00%	0.09%	0.19%	0.32%
Bus				
Bus	84.26%	85.85%	87.32%	88.62%
CNG	0.00%	0.24%	0.53%	0.88%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Freight				
hcv				
hcv	61.57%	60.02%	58.00%	55.89%
lcv				
lcv	38.43%	39.98%	42.00%	44.11%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Passenger				
2-wh				
2 stroke	2.16%	1.85%	1.54%	1.23%
4 stroke	0.32%	0.33%	0.33%	0.32%
3-wh				
2 stroke	0.58%	0.48%	0.38%	0.28%
Propone	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	5.65%	3.24%	1.46%	0.37%
Post 1984 model	10.10%	6.33%	3.33%	1.18%
Cat. Convertor	0.00%	0.82%	1.08%	0.78%
Diesel	3.74%	2.37%	1.26%	0.46%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	1.56%	1.59%	1.26%	0.57%
Diesel	1.87%	2.96%	4.21%	5.60%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	74.04%	80.04%	85.15%	89.21%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / NITROGEN OXIDES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Freight				
hcv				
hcv	55.46%	53.71%	51.45%	49.11%
lcv				
lcv	44.54%	46.29%	48.55%	50.89%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Passenger				
2-wh				
2 stroke	6.12%	4.53%	3.16%	1.99%
4 stroke	0.22%	0.77%	1.15%	1.35%
3-wh				
2 stroke	6.15%	4.50%	2.98%	1.57%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	3.62%	2.16%	0.97%	0.07%
Post 1984 model	12.04%	7.89%	4.44%	1.74%
Cat. convertor	0.31%	2.62%	4.27%	5.15%
Diesel	7.13%	8.10%	8.51%	8.27%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	0.67%	0.50%	0.32%	0.13%
Diesel	6.52%	6.73%	7.02%	7.40%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	57.23%	62.19%	67.18%	72.32%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Freight				
hcv				
hcv	59.53%	56.66%	53.58%	49.28%
lcv				
lcv	40.47%	43.34%	46.42%	50.72%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Passenger				
2-wh				
2 stroke	2.57%	2.28%	1.95%	1.58%
4 stroke	0.15%	0.43%	0.74%	1.07%
3-wh				
2 stroke	4.72%	3.70%	2.54%	1.25%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	8.28%	5.24%	2.58%	0.64%
Post 1984 model	6.53%	4.18%	2.10%	0.57%
Cat. convertor	0.33%	3.44%	5.17%	4.64%
Diesel	26.72%	19.62%	12.55%	5.91%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	2.52%	1.61%	0.81%	0.20%
Diesel	24.51%	24.27%	21.79%	15.96%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	23.66%	35.22%	49.77%	68.19%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Freight				
hcv				
hcv	69.85%	68.72%	59.54%	54.51%
lcv				
lcv	30.15%	31.28%	40.46%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Passenger				
2-wh				
2 stroke	1.98%	2.45%	2.78%	2.92%
4 stroke	0.22%	0.58%	1.15%	1.97%
3-wh				
2 stroke	4.86%	3.97%	3.08%	2.20%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	1.79%	1.21%	0.69%	0.25%
Post 1984 model	1.59%	1.08%	0.63%	0.25%
Cat. Convertor	0.08%	0.71%	1.21%	1.52%
Diesel	6.17%	4.79%	3.50%	2.31%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	1.60%	1.27%	0.86%	0.36%
Diesel	15.52%	17.06%	18.79%	20.73%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	66.21%	66.87%	67.31%	67.48%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Freight				
hcv				
hcv	56.12%	54.51%	52.43%	50.29%
lcv				
lcv	43.88%	45.49%	47.57%	49.71%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Passenger				
2-wh				
2 stroke	6.50%	5.58%	4.60%	3.63%
4 stroke	0.84%	0.88%	0.88%	0.82%
3-wh				
2 stroke	3.82%	3.13%	2.45%	1.82%
Propone	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	2.96%	1.70%	0.76%	0.19%
Post 1984 model	5.02%	3.15%	1.65%	0.58%
Cat. Convertor	0.00%	1.24%	1.62%	1.14%
Diesel	15.86%	10.06%	5.34%	1.92%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	0.82%	0.83%	0.66%	0.29%
Diesel	7.93%	12.56%	17.77%	23.28%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	56.24%	60.86%	64.28%	66.33%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / SULFUR OXIDES / SULFUR DIOXIDE
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Freight				
hcv				
hcv	49.85%	48.08%	45.83%	43.52%
lcv				
lcv	50.15%	51.92%	54.17%	56.48%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Passenger				
2-wh				
2 stroke	36.64%	32.02%	26.45%	19.86%
4 stroke	0.31%	1.27%	2.25%	3.14%
3-wh				
2 stroke	16.93%	14.60%	11.46%	7.21%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	3.04%	2.14%	1.14%	0.10%
Post 1984 model	11.53%	8.91%	5.95%	2.77%
Cat. convertor	0.10%	0.99%	1.90%	2.73%
Diesel	2.60%	3.49%	4.35%	5.02%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	0.56%	0.50%	0.38%	0.18%
Diesel	2.38%	2.90%	3.58%	4.50%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	25.91%	33.20%	42.54%	54.49%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Del-Freight				
hcv				
hcv	64.46%	61.72%	58.74%	54.51%
lcv				
lcv	35.54%	38.28%	41.26%	45.49%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Passenger				
2-wh				
2 stroke	20.97%	20.30%	19.07%	16.92%
4 stroke	0.29%	0.91%	1.70%	2.68%
3-wh				
2 stroke	17.70%	15.13%	11.41%	6.14%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	9.45%	6.54%	3.53%	0.96%
Post 1984 model	8.52%	5.95%	3.29%	0.97%
Cat. convertor	0.14%	1.63%	2.68%	2.64%
Diesel	13.28%	10.65%	7.47%	3.85%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	2.88%	2.01%	1.10%	0.30%
Diesel	12.18%	13.17%	12.98%	10.40%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	14.59%	23.71%	36.77%	55.14%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Cal-Freight				
hcv				
hcv	74.07%	73.04%	64.48%	59.65%
lcv				
lcv	25.93%	26.96%	35.52%	40.35%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Passenger				
2-wh				
2 stroke	17.46%	21.58%	24.62%	26.30%
4 stroke	0.45%	1.20%	2.39%	4.16%
3-wh				
2 stroke	19.73%	16.08%	12.55%	9.11%
Propane	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	2.22%	1.49%	0.85%	0.32%
Post 1984 model	2.24%	1.52%	0.89%	0.36%
Cat. Convertor	0.04%	0.33%	0.57%	0.73%
Diesel	3.32%	2.57%	1.89%	1.27%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	1.98%	1.57%	1.07%	0.45%
Diesel	8.36%	9.15%	10.14%	11.37%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	44.22%	44.50%	45.04%	45.93%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Bom-Freight				
hcv				
hcv	61.20%	59.65%	57.62%	55.51%
lcv				
lcv	38.80%	40.35%	42.38%	44.49%
TOTAL	100.00%	100.00%	100.00%	100.00%

AREA: SAREC
SCENARIOS: S3BA

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Passenger				
2-wh				
2 stroke	41.97%	39.48%	36.10%	31.74%
4 stroke	1.27%	1.47%	1.61%	1.67%
3-wh				
2 stroke	11.34%	10.18%	8.84%	7.33%
Propone	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Car/Jeep				
Pre 1984 model	2.68%	1.69%	0.83%	0.23%
Post 1984 model	5.19%	3.57%	2.06%	0.81%
Cat. Convertor	0.00%	0.46%	0.68%	0.53%
Diesel	6.24%	4.34%	2.55%	1.02%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
Taxi				
Petrol	0.74%	0.83%	0.72%	0.36%
Diesel	3.12%	5.42%	8.49%	12.42%
CNG	0.00%	0.00%	0.00%	0.00%
Bus				
Bus	27.45%	32.56%	38.11%	43.88%
CNG	0.00%	0.00%	0.00%	0.00%
BOV	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%

ENVIRONMENTAL EFFECTS: DEMAND SOURCES BY YEAR
AIR EMISSIONS / PARTICULATES / TOTAL
ALL FUELS
PERCENT SHARE

	1996	2001	2006	2011
Ban-Freight				
hcv				
hcv	55.08%	53.32%	51.07%	48.72%
lcv				
lcv	44.92%	46.68%	48.93%	51.28%
TOTAL	100.00%	100.00%	100.00%	100.00%

Annexure 5.14. Net present value analysis of a BOV w.r.t. a conventional 3-wheeler

Life span: 9 years, Discount rate: 6%

0.06

(figures in Rs)			0	1	2	3	4	5	6	7	8
3 wh											
Capital Cost			50,000								
O&M			1000	1000	1000	1000	1000	1000	1000	1000	1000
Operating cost (per yr)		30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785
total			81,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785
	PV	**279163**	81785	29986	28288	26687	25177	23752	22407	21139	19942
bov											
Capital Cost			105,000								
Cost of battery			45,000			45,000			45,000		
O&M			750	750	750	750	750	750	750	750	750
Operating cost/yr		6633	6633	6633	6633	6633	6633	6633	6633	6633	6633
			157,383	7,383	7,383	52,383	7,383	7,383	52,383	7,383	7,383
	0.97698 PV	**272736**	157383	6965	6571	43982	5848	5517	36928	4910	4632

Life span: 9 years, Discount rate: 10%

0.1

(figures in Rs)			0	1	2	3	4	5	6	7	8
3 wh											
Capital Cost			50,000								
O&M			1000	1000	1000	1000	1000	1000	1000	1000	1000
Operating cost (per yr)		30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785
total			81,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785
	PV	**251355**	81785	28895	26269	23880	21710	19736	17942	16311	14828
bov											
Capital Cost			105,000								
Cost of battery			45,000			45,000			45,000		
O&M			750	750	750	750	750	750	750	750	750
Operating cost/yr		6633	6633	6633	6633	6633	6633	6633	6633	6633	6633
			157,383	7,383	7,383	52,383	7,383	7,383	52,383	7,383	7,383
	1.01841 PV	**255981**	157383	6712	6102	39356	5043	4584	29569	3789	3444

Life span: 9 years, Discount rate: 12%

0.12

(figures in Rs)			0	1	2	3	4	5	6	7	8
3 wh											
Capital Cost			50,000								
O&M			1000	1000	1000	1000	1000	1000	1000	1000	1000
Operating cost (per yr)		30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785
total			81,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785
	PV	**239681**	81785	28379	25339	22624	20200	18036	16103	14378	12837
bov											
Capital Cost			105,000								
Cost of battery			45,000			45,000			45,000		
O&M			750	750	750	750	750	750	750	750	750
Operating cost/yr		6633	6633	6633	6633	6633	6633	6633	6633	6633	6633
			157,383	7,383	7,383	52,383	7,383	7,383	52,383	7,383	7,383
	1.03841 PV	**248888**	157383	6592	5886	37285	4692	4189	26539	3340	2982

Life span: 9 years, Discount rate: 15%

0.15

(figures in Rs)			0	1	2	3	4	5	6	7	8
3 wh											
Capital Cost			50,000								
O&M			1000	1000	1000	1000	1000	1000	1000	1000	1000
Operating cost (per yr)		30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785	30,785
total			81,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785	31,785
	PV	**224414**	81785	27639	24034	20899	18173	15803	13741	11949	10391
bov											
Capital Cost			105,000								
Cost of battery			45,000			45,000			45,000		
O&M			750	750	750	750	750	750	750	750	750
Operating cost/yr		6633	6633	6633	6633	6633	6633	6633	6633	6633	6633
			157,383	7,383	7,383	52,383	7,383	7,383	52,383	7,383	7,383
	1.06747 PV	**239556**	157383	6420	5583	34443	4221	3671	22647	2776	2414

Annexure 5.15 Net present value analysis of a CNG car w r t. a conventional old model car

Life span: 18 years, Discount rate: 6%

0 06

(figures in Rs)			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ambassador car																				
Capital Cost			181,327																	
O&M cost		1813 3	1813 3	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813
Operating cost (per yr)		15,396	15,396	15,396	15,396	15.396	15.396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396
Total cost			198,537	17,210	17,210	17,210	17,210	17,210	17,210	17.210	17,210	17,210	17,210	17,210	17.210	17,210	17,210	17,210	17,210	17,210
	PV	**378847**	198,537	16236	15317	14450	13632	12860	12132	11445	10798	10186	9610	9066	8553	8069	7612	7181	6775	6391
cng car																				
Capital Cost			197,385																	
O & M cost		1973 9	1973 9	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974
Operating cost/yr		8591 2	8591 2	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591
			207,950	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565
	0.84109 PV	**318644**	207950	9967	9403	8871	8369	7895	7448	7026	6629	6253	5899	5566	5251	4953	4673	4408	4159	3924

Life span: 18 years, Discount rate: 10%

0 1

(figures in Rs)			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ambassador car																				
Capital Cost			181,327																	
O&M cost		1813 3	1813.3	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813
Operating cost (per yr)		15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396
Total cost			198,537	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210
	PV	**336585**	198,537	15645	14223	12930	11754	10686	9714	8831	8028	7299	6635	6032	5484	4985	4532	4120	3745	3405
cng car																				
Capital Cost			197,385																	
O & M cost		1973.9	1973.9	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974
Operating cost/yr		8591 2	8591 2	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591
			207,950	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565
	0 86961 PV	**292699**	207950	9605	8731	7938	7216	6560	5964	5422	4929	4481	4073	3703	3366	3060	2782	2529	2299	2090

Life span: 18 years, Discount rate: 12%

				0 12																
(figures in Rs)			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ambassador car																				
Capital Cost			181327																	
O&M cost		1,813	1813	1,813	1,813	1,813	1,813	1,813	1,813	1,813	1,813	1.813	1,813	1,813	1,813	1,813	1,813	1,813	1,813	1,813
Operating cost (per yr)		15,396	15396	15,396	15,396	15,396	15,396	15,396	15,396	15.396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15.396	15,396	15.396
Total cost			198537	17,210	17,210	17,210	17.210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210
	PV	**321,064**	198537	15,366	13.719	12.250	10,937	9,765	8,719	7,785	6,951	6,206	5.541	4,947	[illegible]	3,944	3,521	3,144	2,807	2,506
cng car																				
Capital Cost			197385																	
O & M cost		1,974	1974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974	1,974
Operating cost yr		8,591	8591	8,591	8.591	8,591	8,591	8.591	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591
			207950	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565
	0 88197 PV	**283,170**	207950	9,433	8,422	7,520	6,714	5.995	5,353	4,779	4,267	3,810	3,402	3,037	2,712	2,421	2,162	1,930	1,723	1,539

Life span: 18 years, Discount rate: 15%

				0 15																
(figures in Rs)			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ambassador car																				
Capital Cost			181,327																	
O&M cost		1813 3	1,813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813
Operating cost (per yr)		15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396
Total cost			198,537	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210
	PV	**302607**	198,537	14965	13013	11316	9840	8556	7440	6470	5626	4892	4254	3699	3217	2797	2432	2115	1839	1599
cng car																				
Capital Cost			197,385																	
O & M cost		1973 9	1,974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974
Operating cost/yr		8591 2	8,591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591
			207,950	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565
	0 89832 PV	**271839**	207,950	9187	7989	6947	6041	5253	4568	3972	3454	3003	2612	2271	1975	1717	1493	1298	1129	982

Life span: 15 years, Discount rate: 20%

				0 2																
(figures in Rs)			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ambassador car																				
Capital Cost			181,327																	
O&M cost		1813 3	1,813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813	1813
Operating cost (per yr)		15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396	15,396
Total cost			198,537	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210	17,210
	PV	**280707**	198,537	14341	11951	9959	8299	6916	5763	4803	4002	3335	2779	2316	1930	1608	1340	1117	931	776
cng car																				
Capital Cost			197,385																	
O & M cost		1973 9	1,974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974
Operating cost/yr		8591 2	8,591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591	8591
			207,950	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565	10,565
	0.92051 PV	**258395**	207,950	8804	7337	6114	5095	4246	3538	2949	2457	2048	1706	1422	1185	987	823	686	571	476

Annexure 5.16. Specific fuel consumption in Delhi power plants

		Indraprastha	Rajghat	Badarpur
1988/89	coal (kg/kWh)	0.62	–	0.84
	oil (ml/kWh)	32	–	6.91
1991/92	coal (kg/kWh)	0.79	0.79	0.84
	oil (ml/kWh)	23.79	36.18	5.29
1994/95	coal (kg/kWh)	0.82	0.82	0.83
	oil (ml/kWh)	20.55	9.42	2.65
1997/98	coal (kg/kWh)	0.82	0.82	0.83
	oil (ml/kWh)	20.55	9.42	2.65
2001/02	coal (kg/kWh)	0.82	0.82	0.83
	oil (ml/kWh)	20.55	9.42	2.65
	coal (kg/kWh)	0.82	0.82	0.83
	oil (ml/kWh)	20.55	9.42	2.65

Specific fuel consumption for gas based plants = 0.360347 m^3/kWh

Annexure 5.17. Plantwise specific coal and oil consumption in Calcutta

		Mulajore	/New Cossipore	Titagarh	Southern	Bandel	Kasba
1988/89	coal (kg/kWh)	0.89	0.89	0.53	0.53	0.51	0.6
	oil (ml/kWh)	5.9	5.9	8.6	0.0	15.6	6.8
1991/92	coal (kg/kWh)	0.94	0.94	0.6	0.6	0.59	0.6
	oil (ml/kWh)	5.9	5.9	11.1	16.6	9.4	6.8
1994/95	coal (kg/kWh)	0.94	0.94	0.6	0.6	0.59	0.6
	oil (ml/kWh)	3.4	3.4	4.2	2.1	6.8	6.8
1997/98	coal (kg/kWh)	0 94	0.94	0.6	0.6	0.59	0.6
	oil (ml/kWh)	3.4	3.4	4.2	2.1	6.8	6.8
2001/02	coal (kg/kWh)	0.94	0.94	0.6	0.6	0.59	0.6
	oil (ml/kWh)	3.4	3.4	4.2	2.1	6.8	6.8
	coal (kg/kWh)	0.94	0.94	0.6	0.6	0.59	0.6
	oil (ml/kWh)	3.4	3.4	4.2	2.1	6.8	6.8